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ILLUSTRATIONS.

American Constructive Details. Communicated by Mr. A. J. Gale, A.R.I.B.A.—Roof of Cupola of Post Office Buildings, St. Louis 406
Clearstory Window in SS. Giovanni e Paolo, Venice 408
Details of West Entrance, Tintern Abbey 410, 415
Warehouse, Broad-Street, Bloomsbury.—Mr. Joseph Peacock, Architect 412, 413
Sketches of Ancient Fonts 417

CONTENTS.

The Journal of Indian Art 395
The History of the Railway System in France 396
Sanitary Inspection of Dwelling-Houses 397
Notes 398
Latin Legends on and over Lintels 399
A Treatise on Steel and Iron 399
Pictures for the forthcoming Paris *Salon* 400
Mr. Poynter, R.A., on the Connexion between Asiatic and Greek Sculpture 401
Architectural Association: Shams 402
Acton Drainage 403
Window in Church of SS. Giovanni e Paolo, Venice 404
The Pepys Memorial 404
American Constructive Details 421
West Entrance and Details, Tintern Abbey 421
Warehouse Architecture 421
Sketches of Ancient Fonts 421
American Construction 421
New Regulations in Switzerland for Tests of Cement 422
Taunton Castle 423
The Paris Roof-Coverers 423
Edinburgh Architectural Association 423
Liverpool Engineering Society 423
Macclesfield House 423
Westminster Training School and Home for Nurses 423
The Royal Institute of British Architects 424
The Royal Institute of British Architects, and its Charter 424
Smoke Abatement 424
Additional Liability for Builders 425
Derby Asylum Competition 425
Cloisters at Ratisbon 425
The London Fever Hospital 425
Belgian Granite 425
A Correction 425
The Late Mr. R. S. Pope 426
Cremation 426
Pipes *v.* Façades 426
The Victor Emanuel Monument Competition 426
Mechanical Aids to Sculpture 426
A would-be Academy Student's Difficulties 426
Church Building News 426
Dissenting Church Building News 427
Stained Glass 427
Variorum 427
Building Patent Record 428
Meetings 428
Aboriginal Dwellings in Arizona 428
Miscellanea 428

The Journal of Indian Art.

THE appearance of the new quarterly *Journal of Indian Art*, of which the two first numbers, for January and April of this year, are now before us, means something more than a mere addition, good or bad, to our list of illustrated artistic periodicals. It is the outcome of the peculiar position in which English government and Indian art are now placed in relation to each other. Following what seems to be the inevitable law wherever European influence intrudes on Eastern nations (a significant fact which it is useless for art enthusiasts to close their eyes to), the native art of India seems in danger of being hopelessly deteriorated, and even finally disappearing, through the efforts of the misguided native to imitate European art and fall in with European ideas. In the official notice appended to the first number of the *Journal of Indian Art* it is observed that, when a system of cataloguing and collecting examples of practical native industries was set on foot, it was at the same time felt that a larger question was raised in regard to artistic industries. "Could any effort be made to check the deterioration which is so clearly visible in many of these handicrafts? Against interference might be urged the danger of destroying the traditional skill and sense of beauty which the humblest Indian artificer often seems to possess. On behalf of interference were the obvious facts that Indian art is already being led into new paths to meet European tastes and requirements; that it imitates with little or no discrimination; and that it readily follows ignorant guidance. The evidence on the whole seemed in favour of some interference, if it could be exercised with discretion and without injury to trade." These considerations led to a "draft scheme for the promotion of industrial arts in India," a copy of which was also circulated with the first number of the journal. It provides for the formation of a Local Committee in any district in which an industrial art of special character is carried on, which committee is to examine the conditions under which the industrial art is conducted; to examine the specimens and select the best as "approved examples"; to form a local museum for the deposit of such examples; to encourage the industrial art by the establishment of schools, the supply of patterns, by exhibitions with prizes contingent thereto, and by establishing an agency for the supply of "duplicates of approved examples" to provincial committees. "In each province there will be appointed a Provincial Committee, of which the officer in charge of the Agricultural Department" ("Why this?" as Malvolio says) "and the officer in charge of the school of art (if there be one in the province) shall be *ex officio* president and secretary respectively." The provincial committee is to form a collection of provincial exhibits at the museum at the head quarters of the province, and to select approved specimens from the local museums for permanent deposit at the provincial museum, to advise and control the action of local committees, and to contribute a section each year to the *Journal of Indian Arts and Industries*. Collections of approved examples from all provinces of India will be made at Madras, Bombay, and Calcutta: these will be termed the Presidency Collections.

In other words, India, *en masse*, is to be *South Kensingtonised*.

That is what it comes to, if put in the plainest and most succinct manner. That the plan has been formed with the best intentions we do not question, nor do we deny that the scheme presents an admirably coherent and symmetrical administrative machinery. We can see, in imagination, the "approved example," painfully elaborated by Ram Shasti under the advice of the local committee, working its way up, in a series of "duplicate examples," to the provincial and finally to the three Presidency museums, there to be ticketed and labelled as an illustration of Indian art reformed on true principles, under the fostering care of a paternal Government. The machinery, as we said, appears most complete. The trifling question only remains to be asked, how do the Indian Government propose to revive the spirit which once burned spontaneously in Indian art, and which "the breath of these Saxons and Celts" seems to have nearly blown out? Make committees, agricultural presidents, art secretaries, and museums for "approved examples," as you please; but, as Chaucer sang,—

> "Love will not be constreined bye maisterie;"

and it is even so with art, which is a kind of love,—the love of what you are doing, and the desire to put your enjoyment of beauty, visibly expressed, into it. A "department" may make every preparation for evoking the artistic spirit, but will it come, being called? or will any amount of advice and selection of "approved examples" bring again, if it has really fled, that spontaneous charm of Indian art which resided in work which the workers did not think of or intend as "art," or as æsthetically correct; which they made because they liked it, without thinking of schools of design or artistic principles? As a man long resident in India observed to us one day, the weavers of the Indian carpets and other stuffs, which we have been in the habit of admiring, did not think of their work as "art," in any conscious manner; it was the way they had always made such things, and they would not have thought of doing it otherwise. But the European serpent has entered into this artistic Eden, and the innocent inhabitants have eaten of the tree of knowledge of good and evil; they have become self-consciously desirous of emulating European art; have lost, or are in danger of losing, the original unconscious charm and beauty of their own. And the European government, by a strange sort of irony, is forming an administration to lead the Indian back into the ways of his own indigenous art, and to show him what is right and what is wrong in it.

With the intention it would be impossible to find fault. But we fear that success, any kind of success that would be worth having, is not to be looked for where the original feeling of native work has really been lost. It cannot, from the very nature of things, be revived by such means. But perhaps the knowledge of the fact that "Sahib" desires to encourage native art and to have its original productions may do something to retard or avert the adulteration of Indian art where it has not already set in. And one object which the new journal has in view is a partly practical one, from which something may come. "One of the most important matters in connexion with the establishment of a demand for Indian art-ware," it is observed in the preface, "is to decide how far it is legitimate to adapt Oriental workmanship and designs to articles of modern utility in Europe and America. The water-pots of the East are useless, except as chimney ornaments, in the homes of the West. The carved steering-chair of an Irrawaddy boat cannot be rigged up on the poop of a Thames steamer. . . . To what extent, then, can Eastern designs and workmanship be applied to Western forms? The issue is one of some difficulty. But unless it is decided, no extended use can be made of Indian art manufactures." This, of course, is a question touching on the commercial side of the subject, and a not unimportant one. But it is a question very difficult to answer. On

the whole, we should be disposed to think that the purchase of Indian decorated objects by Europeans is likely to remain, in almost all cases, a matter of æsthetic only; that they will be, as they are now, *objets de luxe;* and that for all practical purposes European-made articles are likely to be more suitable to Europeans than Indian-made ones, although in many cases, less beautiful This latter conclusion, we may observe, is only to be adopted *cum grano.* The beauty of fitness and finish which characterises the best European work is an element not to be despised. Splendidly decorated guns are to be found in Oriental and in older European work, but the finish of a modern rifle is more to the purpose. There are in the South Kensington Museum exquisitely-carved old violins and other instruments, which for musical purposes are probably nearly valueless; but who will deny the beauty, though strictly subordinate to purpose, of a plain Cremona violin?

If, however, the movement out of which the *Journal of Indian Art* has arisen does not and cannot accomplish what it seems to aim at, the publication of the journal is not the less an event of interest, and calculated to do a good deal in extending among European readers a more detailed knowledge of the various branches of Indian art-work, the conditions under which it is carried on, and the nature of the work at present being produced. It is intended to publish in each number of the journal an account of some one or two of the art manufactures of India, considered, in the first place, in their relations to the history of the country and the daily life of the people, and, in the second place, to possible European applications and uses, and to the extension of the trade. The first number contains, in accordance with this programme, a very full account of the brass and copper ware of the Punjab and Cashmere, by Mr. J. L. Kipling, illustrated by several plates representing designs for various vessels, drawn by native artists, under Mr. Kipling's direction. Some of these are purely Oriental in general form and outline, as well as in detail; in some we seem to detect an approximation to European forms, overlaid with Indian detail. An illustration of embossed copper, the work of a Sikh artist, gives a curious example of what certainly seems to be a *motif* suggested by Renaissance work,—flowing foliage forms on either side of a centre vase, but the details showing that delicate, nearly natural treatment of flower forms which is so characteristic of Indian ornament,—the ornament of flowers, as it may be specially said to be. The second number of the journal is in a sense a "special" one, giving a greater variety of illustration and a larger amount of coloured work than it is intended always to give. It deals largely with the subject of enamel, giving some account of the varieties of enamel work in different districts; after which follow chapters on stone carving, silver plate, ivory inlays, and garnets; the latter being rather an industrial and commercial than an artistic article. The most remarkable illustration in this number is the chromo-lithograph showing the crutch-staff of the Maharája Mán Singh, of Jeypore, who died in 1615. Here we have original and unbiassed Indian art in its purity. The staff is composed of thirty-three cylinders of gold, arranged on a central core of strong copper, surmounted by a crutch of light green jade, set with gems. All the cylinders but the lowest (the whole is 52 in. long) are decorated in what appears to be *champlevé* enamel, showing flowers, and figures of all manner of animals, introduced in naïve and wild profusion. Would this pass as an "approved example" if submitted as modern work? We have some doubt of it; certainly, the distribution of the ornament follows no rule of art; but it is the kind of thing that no departmental machinery for producing art would ever call into being. The most interesting illustration of modern work is a powder-horn, of buffalo-horn inlaid with ivory and mother-of-pearl, made by Sila Ram, of Rlawah, near Kotah, and drawn, the two sides, by two native draughtsmen. It is a picturesque thing, not looking quite like pure Indian work; but we should hardly suppose it convenient for use as a powder-horn. There is the rub, commercially: this powder-flask would do to hang up as an ornament, but the English sportsman would prefer to buy one in Bond-street for use. However, the *Journal of Indian Art* is an addition of distinct and special interest to the list of our art periodicals, and those who pay attention to it will be likely to learn more about modern Indian art-work and its conditions, than they have the means of knowing at present.*

THE HISTORY OF THE RAILWAY SYSTEM IN FRANCE.

IN the busy drive of modern life, when change, progress, and discovery that would have filled the term of a generation in earlier times, are crowded into few years, or even months, there is great danger that the history of discovery will be lost,—overlaid, as it were, by its own energy. It is not from the point of view of the historian alone that the want of record is to be lamented. In all mechanical improvement a knowledge of what has been done by his predecessors is of primary importance to the inventor. Those who have had occasion to study the subject know well how invariably the same invention is reproduced, over and over again, by men who, if they only knew the history of their subject, might have devoted their inventive talents to perfecting something that might be of real service to mankind. It is the ignorance of the road by which a certain result has been reached that allows the inventor so often to re-discover an old method, which, may be, has had its day, but which has been superseded by the riper fruits of experience.

Some of the elements of the history of the most wonderful physical revolution that the world has yet witnessed are on record. Many, if not all, of the steps of inventive progress have been necessary stages in order to arrive at our actual condition. But were a writer, however familiar with his subject, to attempt now to bring before the world, in a complete, exhaustive, and yet readable form, a history of the birth, growth, and progress of the English railway system, of the great principles on which legislation for it had been based, and of the place which, in the regard of the statesman, it occupies in the general civilisation of the day, it would be a matter of immense toil to collect such materials as are on record; nor would the outcome, we think, at best be more than a very imperfect sketch.

How such a history not only may be, but has been, written for France we have very admirably shown to us in a great work just completed by M. Alfred Picard, and published under the auspices of the French Ministry of Public Works. M. Picard holds the rank of *Ingénieur en Chef des Ponts et Chaussées*; and was formerly Director of Railways in the Ministry of Public Works. But it is not as an engineer that he writes; nor does his work enter into the subject of the perfection of the mechanical details of the railway system. His duty of central administrator of this great branch of public works commenced at the time when the French Government was about vigorously to prosecute the great industrial programme drawn up in 1879. For his own guidance he found it necessary to study in the fullest detail the history of the French system of railways. Not only did he bring together in their proper order the legislative Acts, whether regulative or administrative, passed since the origin of iron ways, but he also studied the preliminary inquiries and the debates which took place in the Chambers. Analysing and arranging, at first for his own guidance alone, the documents which he was thus led to examine, he found the work grow until it assumed an importance which led the author rightly to think it deserving of publication.

From the brief history thus given by M. Picard of the origin of his work it will be seen that his explanation that it is not a critical or controversial production is naturally borne out. In that, indeed, lies one of its chief merits. The story is rather of the nature of a chronicle, in which the writer, restrained by the reserve due to his official position from making any comments on what was garnered up by the pen, traces a conscientious and complete history of the constitution of the system that he has studied and administered, and the successive transformations through which it has passed.

M. Picard's work, in fact, makes it only the more desirable that a corresponding work should be, as far as possible, effected for the growth and history of the railway system in this its island cradle. For the contrast between the mode in which the subject has been regarded in France and in England is very striking. No less striking are the results. Nor can anything be readily conceived of more value to the future progress of our industrial development than would be such a comparison of the two methods, the French and the English, as might thus be effected. Is it not of cardinal importance to deduce the lesson which is to be derived from the experience of half a century? We do not speak of railways alone. The inquiry has a much wider range. It applies to all the great inventions of the eighteenth, the nineteenth,—ay, and the succeeding centuries. It is all very well to say that the French method has suited the genius of the French, and the English that of the English, people. But is it nothing to ask which method has had the best results? For it is not, or soon will not be, so much a question of what is most in accordance with the prejudices or the habits of the Frank or of the Teuton, as it is of the method by which, for open competition in the market of the world, the productive and enriching powers of machinery can be best employed.

As to this, a glance at the results, as indicated, on the one hand, in the numerous and valuable tables which have been prepared by M. Systermans, the chief of the division of control of the accounts of the companies and of the statistics of railways, for M. Picard, and which are printed in the fourth volume of his work on "Les Chemins de Fer," as compared with the meagre figures of our own "Railway Returns," are enough to make any thoughtful man see that there is need of some further information.

Among the tables to which we have referred is one (p. 826) of the relative importance of the railway system as in work in the different countries of of Europe on the 31st of December, 1882. Among these England occupies, in most, but not in all respects, the foremost place, but not foremost to any marked degree. The 18,474 miles of open line in the United Kingdom are only 677 miles more than the aggregate of the railways of France, and are 3,139 less than that of those of Germany. Mere length, however, tells for comparatively little. There are three modes by which, as is shown in the appendix to the Report of the Select Committee on Canals (252, 1883, p. 232), a comparison of the proportionate excellence of the communications of different countries may be made to assume a numeric value. Of these one is the proportion of length to area, which may be stated in miles and square miles, as in that report, or, as in Continental usage, in kilomètres and square kilomètres. The second mode is to state the length of line open for each 10,000 inhabitants. These two sets of figures are tabulated by M. Picard. The third kind of comparison, given in the English report, is not illustrated by the French statist. It is the amount of railway capital and railway income per head. To this has, of course, to be added a comparison of the tariffs, and of the financial outcome of the various systems.

In proportion of length of line to area of country, our readers may be surprised to hear that Portugal comes first, followed by Spain, and then by Belgium. For every square kilomètre in Portugal are open 0·164 kilomètres of railway. In Spain there are 0·157; in Belgium, 0·141. For France the corresponding length is 0·055, or about a third of the Spanish pro-

* The journal is published in London by W. Griggs, whose firm also execute the lithography, of which the coloured plates are the best. The others are rather deficient in sharpness and finish.

portion. For England it is 0·095, or 56 per cent. more than in France. This proportion, however, has to be checked by that of the numbers of population accommodated. As to this, Sweden and Norway are at the bottom of the list, with one kilomètre of line to every 12,110 inhabitants. In this comparison England and France are marked respectively as fourth and sixth in order. England having 8·454 kilomètres of railway, and France 7·660 kilomètres of railway, to every 10,000 inhabitants. Thus regarded, the earning power of the English railways, as limited by the population that they serve, is rather more than 10 per cent. above that of the French railways; while the different proportion of length to area is again a mark of a less energetic earning power in the lines of our Continental neighbours, as compared with our own.

In the table of the general results of the working of the French railways for 1882, the total length differs from that given in the table above analysed; a note explaining that certain portions of the lines are worked "*au compte d'établissement.*" We do not quite understand this; but take the figures as given in the tables. Over a total of 23,432 kilomètres of French railway the mean cost is given at 69,525 francs per kilomètre expended by the Government, and 372,607 francs expended by the companies; making 442,132 francs per kilomètre in all. In English dimensions this is equal to a gross cost of 28,500*l.* per mile, which is very close upon the average cost per mile in France in 1867. If we compare this with the English lines, we find that the mean cost of construction, which was 35,254*l.* per mile in 1867, had risen to 41,605*l.* per mile in 1882, or to 46 per cent. more than the French lines. The gross receipts per kilomètre on the French lines, according to this table, were, in 1881, 45,951 francs per kilomètre. The working expenses came to 22,602 francs per kilomètre, being at the rate of 49·2 per cent. on the revenue. The resulting net profit is 23,349 francs per kilomètre, or almost exactly 1,500*l.* per mile. In 1867 we make the net receipts to have been 1,460*l.* per mile. But these figures do not represent the total financial outcome of the French railways. The State, as we learn by another table (p. 996), has received a total sum of 165,378,613 francs, in the year 1881, from taxes and duties on railways, and has further effected an economy of 97,354,345 francs on transport gratuitously or cheaply effected by the lines. It is true that the taxation on the English lines affords a corresponding item to the first of these items; but there is still an item of 97 millions of francs to be carried to the credit of the French railways, as serving the State at a reduction of cost, to which we have no corresponding item in the English lines. As for taxation, the incidence of the Government dues on the lines of the United Kingdom,—or rather on the Scottish and English railways, as those of Ireland are exempt from Government duty,—was 24*l.* per mile very nearly in 1879. The pressure of the French taxation, amounting to 165 millions of francs on 24,000 kilomètres of line, is, at first sight, much heavier than our own, while the economies above stated amount alone to rather more, per mile of line, than the whole of the English Government duty. But we have still to take into account the rates and taxes on the English lines, amounting to nearly double the Government duty. So that we may regard the two systems as about equally weighted in this respect.

Thus at a glance we have the following comparison:—

	France.	England.
Cost per mile..... ..	£28,500	..... £41,605
Income per mile ...	2,964	 3,512
Working cost	49·2 per cent.	52 per cent.
Net revenue	1,500	 1,686
Yielding on capital.	5·26 per cent.	4·27 per cent.

Thus the English lines are more costly in construction than the French by 46 per cent.; and while earning nearly one-sixth more per mile, do so at a rate of working expenditure which reduces their net gain to only about 10 per cent. more per mile than on the French lines; while on the capital the return is less than on the French lines by nearly 25 per cent.

As to the tariffs,—which, of course, form an integral part of the question,—they are higher on the English than on the French lines, for every item, we believe, except for the carriage of minerals. These the French lines have refused to carry at non-remunerative prices. They are, to a great extent, water borne; a fact which alone is enough to account for both the great reduction in capital cost, and that in proportionate cost of working, on the French as compared with the English lines.

In the preceding columns we have endeavoured rather to show what sort of information may be derived from such a work as that of M. Picard, than to attempt a review of the book itself; for which, indeed, we could not afford the space. The outcome, it seems to us, of the French system is so much more satisfactory than our own, as to show the great importance of a statesmanlike appreciation of the great principles that ought to regulate the development of the system. What these principles have been in France may be thoroughly understood from M. Picard's masterly study. In England the main principle appears to have been to leave everything to unguided private enterprise,—the State not even having taken the trouble to survey, to superintend, or to regulate the location or the working of railways with any reference to the military defence of the country. We do not desire to regard the matter from the point of view either of the proprietors or of the customers of railways. We are anxious to take the standpoint of the statesman. That the internal communications of a country should be, first, scientifically laid out; secondly, constructed, and, thirdly, worked, at the least possible cost, appears to us to be as important as that their net proceeds should pay a fair return on the cost of construction. Take any one of these points (with the sole exception of mineral traffic on trunk lines, not on lines exclusively made and worked for the service of mineral districts) and the result of the French system is undeniably much better than that of our own. Is it to our advantage to have spent 800,000,000*l.*, where on the French system we should not have expended 500,000,000*l.*?

SANITARY INSPECTION OF DWELLING-HOUSES.

A BILL has just been printed by order of the House of Commons, by which it is proposed to provide for the better sanitary inspection of dwelling-houses. The Bill, which was prepared and brought in by Mr. Monckton, the Marquis of Stafford, Mr. H. T. Davenport, and Mr. Henry H. Fowler, commences by reciting that a large number of diseases arise from imperfect sanitary fittings, faulty house-drains, inefficient ventilation, and contaminated water-supply, and that it is expedient to provide for a more thorough supervision of all buildings during construction as well as for a periodical inspection of all buildings when occupied. It is proposed to authorise every local authority to appoint sanitary inspectors to carry out the Act. These inspectors are to examine the plans of all buildings to be erected, and no building shall be commenced after the passing of the Act until the plans for such building have been approved by the inspector.

The sanitary inspectors shall be guided by the following rules in the examination of the plans and descriptions of all new buildings submitted to them, namely:—That the foundation of the buildings be dry, and a damp-course provided; that the drains be of adequate size, laid with a proper fall, disconnected by a ventilating man-hole or trap from the main sewer, and have their connexions properly made; that there be no direct communication between the drains and the interior of the house; that the soil-pipes be efficiently ventilated and brought down outside the building, without any outlet in proximity to any outlet in such building; that the closets or privies and refuse-receptacles are in proper situations, well ventilated, of proper construction, and adapted to any scavenging arrangements that may be in force in the district; that all waste-pipes from sinks, basins, cisterns, and baths, discharge in the open air, near but not directly over gullies outside the house; that all cisterns for the storage of water be properly constructed to prevent any fouling of the water, and be conveniently placed for examination and cleaning; that adequate openings from the external air be provided into all rooms and below the joists of the ground-floor for ventilation.

The sanitary inspectors are to be empowered to survey buildings from time to time during the course of erection, and on the completion of buildings shall test all the drains, soil-pipes, and sanitary fittings, and upon being satisfied therewith shall grant a certificate to that effect, and it shall not be lawful for any building to be occupied or used without such certificate having been granted.

In addition to these duties the sanitary inspector and his assistants are, at least once a year after the passing of the Act, to make an inspection of the sanitary fittings, drains, water-closets, earth-closets, &c., means of ventilation, water supply and storage, and all other sanitary appliances and things of all buildings existing in their district after giving forty-eight hours' written notice to the occupier and owner of such building. In the event of any defects being found to exist, the owner or occupier is to be required to remedy them within a reasonable time, and in the event of non-compliance, the Local Authority may, if they think fit, execute the necessary works, and recover the costs from the owner in a summary manner.

The expenses of the inspectors, as well as the expenses of any alterations required to be made to place buildings of every description in a proper sanitary condition, including the expense of opening the drains and pipes for inspection, are to be paid by the owners of the property.

It will be seen from this short analysis of the Bill that it is of an important character, and that if it should become law it will seriously affect the interests, comfort, and convenience of every class, and will place a new and apparently unlimited power in the hands of a new class of officials.

The sanitary inspectors to be appointed by the Act would override the District Surveyors and the Surveyors to the Vestries and District Boards, and would have paramount authority; for by the seventh section of the Act it is expressly provided that their powers shall not be limited to the matters particularly mentioned in that section, so that their jurisdiction would be practically without any limit. This, it is needless to say, goes far beyond any power that has been conferred upon any statutory official, the only approach to such authority being the powers conferred by the Metropolitan Building Act upon the District Surveyors with regard to public buildings; but in that instance there is a right of appeal to the Metropolitan Board of Works in the event of a disagreement between the parties.

There can be but little doubt that the law with regard to buildings in the metropolis requires some further amendment; but the question is a large one, and cannot be properly dealt with by a private Bill. As regards the country at large there is no such need of amendment; the Public Health Act enables Vestries and District Boards to adopt so much of the Model By-laws, framed by the Local Government Board, as they may think fit, and practically to enact Building Acts and Local Government Acts for themselves with such modifications as may be requisite to meet the wants of the particular locality.

The time is not far distant when it will be found necessary to have a new Metropolitan Building Act embodying the amendments which have been made in the law since 1855, (the date of the passing of the present Act), together with such rules for the proper construction of buildings as have found acceptance among practical men. The Metropolitan Board of Works have shown considerable reluctance to undertake the introduction of a comprehensive measure on the subject since their defeat in the Committee Room of the House of Commons a few years ago, and in the present

state of uncertainty with regard to the government of the metropolis, the public will probably have to wait until the general principle of the suggested new municipality is settled before any alteration in the details of municipal legislation can be hoped for.

NOTES.

SINCE the correspondence concerning the proposed transept or *campo santo* at Westminster, which was concluded in our last, we understand the First Commissioner of Works has visited the site referred to, through which Mr. Fergusson's proposed transept was to run. If this official visit is to be taken as indicating any contemplated move towards the realisation of such a scheme as that proposed, we wish to lose no time in recording our own opinion as decidedly adverse to any such wholesale demolition of so interesting a portion of the precincts of the Abbey; and, though we regret to appear in antagonism to any one to whom students of architecture owe so much as they do to Mr. Fergusson, we must say that we think, on a careful examination of the site, that he has greatly under-rated the interest of the remains which he proposes to sweep away, and that in regard to some points he is less accurate than might have been wished. The roof which "forms a vestibule to two second-class residences" appears to be in its original condition, not a restoration; the outer walls under it are not "rebuilt from the foundations"; on the contrary, a great part of the original masonry remains, and though the windows have been refaced outwardly, on the inner side the old mouldings remain. These are remains of secondary importance, certainly; but the portion of the choir arcade of the old infirmary chapel, which now divides two private gardens, is of real interest, both architecturally and archæologically: it illustrates a curious and unusual point in the placing of the octagonal piers, and the whole is part of the old history of the Abbey. As Mr. Fergusson says its removal "would hurt no one's feelings," we beg to say that it would hurt ours; and we are not "fanatical antiquaries."

WE print elsewhere a letter from Mr. Aitchison, commenting upon the attempt which some (so far) nameless persons are understood to be making to get up an opposition society to the Institute of Architects. We concur entirely in Mr. Aitchison's view of the matter. We are among those who are dissatisfied with the present condition of the Institute; we consider that its councils are too conservative, and that names are permanently prominent among its more influential and talkative members which have little intellectual right to that prominence; but we have always said that this is partly the fault of the quietism or indifference of some leading architects on the artistic side of the profession, who stand aloof and take no trouble to improve matters, and then complain that everything is wrong. The architectural profession is in want of unity now if ever it was; there is all the machinery ready for united action at the Institute, backed by the advantages of permanent head-quarters, a capital library, and, in spite of what malcontents may say, a considerable amount of professional prestige. If a certain portion of the profession deliberately make a party against a central body of this kind, from mere restless egotism and incapability of getting on with others, they will certainly not increase the respectability of the profession in the eyes of the public, nor strengthen their own hands,—not in the long run, at all events.

THE current number of the *Mittheilungen des Deutschen Archäologischen Institutes in Athen* contains material of exceptional interest. Dr. Dörpfeld contributes the result of his recent investigations on the site of the Temple of Athene Alea. Pausanias says of this temple, "as regards its size and the character of its building, it is far before all others in the Peloponnese." He says also of the Apollo temple at Bassæ, that, after the temple at Tegea, it was foremost for the beauty of the stone used, and the harmony of its building (Pausanias, viii., 45, 5; and viii., 41, 8). He further noted that it contained columns of all three orders, Doric, Ionic, and Corinthian. Dr. Dörpfeld's investigations confirm the opinion of Pausanias, and throw new light on the arrangement of the columns, as well as on the superior size of the temple, respecting which the previous measurements of Dr. Milchoeffer had presented some difficulties. Architects and archæologists will look with interest at the fragments published in the accompanying plates. To artists the temple has a special interest, because the pediment sculptures are known to have contained groups actually from the hand of Scopas. Of one of these groups, representing the head of the Calydonian boar, some few fragments lie in the local museum at the neighbouring village of Piali. More complete excavations are earnestly needed, and would almost surely be rewarded by success.

MR. BROADHURST'S Bill for the Enfranchisement of Leaseholds came up for its second reading in the House of Commons on Wednesday afternoon, and was thrown out by 168 votes to 104 We are not surprised at this result. In our number for January 12th we dwelt upon some of the ways in which the working of such a measure would be found to be impracticable, and most of the objections which we then and on a previous occasion urged against it seem to have been present to the minds of our legislators. Great as are the evils of leasehold tenure in London and other large towns, no such drastic remedy as Mr. Broadhurst proposes (and which would, as we have shown, defeat its own object to a great extent) is likely to meet with acceptance. The Attorney-General very justly pointed out that the Bill, by exempting leases of less than twenty years' term, would multiply short leases, and encourage the building of "cobweb" houses. We are very much in sympathy with Mr. Broadhurst when he says that the existing system of leasehold tenure has degraded the art of house-building, and we have often expressed ourselves to a similar effect, but it is more than doubtful whether the Bill of which we are writing would regenerate our speculating builders.

THE re-affirmation of the original verdict in the case of Belt *v.* Lawes has saved the readers of daily papers from being burdened over again with what threatened to be an interminable flow of conflicting evidence and eloquence, and appears to show conclusively what is the aspect of the case to the minds of judges and juries. It also indicates that there are questions in connexion with artistic practice the real bearing of which is beyond the limit of treatment by legal machinery. We are not concerned to justify either side, none of the parties most intimately concerned having gained much credit by the case. But we suspect that the opinion of the minority who are really competent to understand the artistic and moral bearing of the issues involved will be little modified by the legal verdict. The most absurd part of the whole thing is that such a battle should have arisen mainly out of a contest for the honour of having originated or "invested with artistic merit" one of the worst and feeblest public statues ever erected in London.

THE legality of the process of cremation, provided that it is so performed as to involve no public nuisance, having now been settled, the subject enters on a new phase, and it is of some interest to note the various opinions in regard to it which are making themselves heard. The Cremation Society of England have sent round a circular stating the conditions under which they are prepared to undertake cremation, these involving a distinct statement as to the wish of the deceased, a certificate from a medical man that death was from natural causes, or, in the absence of that, a *post-mortem* examination by a medical officer appointed by the Society. These are reasonable and practical conditions, whereas the suggestion, at a meeting of the City Commissioners of Sewers on the 18th, that a *post-mortem* by a public officer should be a condition in *all* cases, would unquestionably, if agreed to, be a serious bar to the general adoption of the system. Sir William Harcourt has declared his intention of opposing cremation in all cases which come before him, because he considers there is a strong public feeling against it; which amounts to saying that, the public being prejudiced, he will be prejudiced also. On the other hand, Sir Spencer Wells wrote a thoughtful and considerate recommendation of the system in the *Times* of the 8th, calling attention to the amount of decaying matter left underground for an indefinite time on the interment system, while under the cremation system "the ashes of the people might repose in death near the scene of their work in life, perfectly harmless, instead of polluting the earth of the churchyard and the water drunk by the surviving people." The system is hardly even fairly on its trial yet, and we never have definitely recommended it; but we may observe that a system supported by such medical testimony in its favour is not to be disposed of on mere objections of sentiment. We are in such matters, as the Poet Laureate has said, "the fools of habit"; and what is repelling to our thoughts at first may cease to be so when a new habit brings new associations with it.

WE learn from Paris that the completion of the Carnavalet Museum in the Rue des Francs Bourgeois, for which funds were voted in 1880, is now to be carried out. In this Museum will be exhibited the views of ancient Paris, which are at present placed temporarily in a room where the light is too deficient for them to be well seen. The Museum will also be made the repository for various architectural fragments of interest, including numerous remains from the ancient Hôtel de Ville. The Minister of Instruction and the Fine Arts is preparing a report on the general condition of the museums of France, which will shortly be submitted to the Government.

ON Friday last there was presented to the Architectural Association a copy of the Sketch-book of the Boston Architectural Association, a volume of sketches from old European buildings, which shows that in Boston, at least, American architects have nothing to learn from those of the old country in regard to style and artistic feeling in architectural sketching. The Association is, we understand, small in numbers at present, but it makes up in ability for its limitations in that respect, if these sketches are any criterion. They are freehand sketches, executed with that mixture of freedom of touch with precision of line which marks the true architectural sketcher. The drawings are mostly comparatively slight, but show sufficiently what they intend to show. The editors, Messrs. R. D. Andrews, E. M. Wheelright, Cass Gilbert, and W. E. Chamberlin, pay a deserved compliment to the Forbes Lithographic Company of Boston for the excellence of the autotype reproductions. English art-architects will have to trust in Providence and keep their pencils sharp, unless they would be distanced by their cousins over the water.

AN example of a new method of decorative painting on a mirror surface, by Mr. Gullick, has been on view during this week at 103, New Bond-street. The speciality of it consists in painting figures, &c., upon a large mirror, so as to appear as if floating in space; the example exhibited consists of a dining-room decoration on a mirror, supposed to stand behind the *buffet*, on the lower portion of which is painted a very realistic pile of fruit; on the upper portion a train of Amorini, flying in semicircle, holding festoons. The effect, as used here, is tawdry, and the painting of realistic fruit as "ornament," in such a position, is in the very worst taste; but the system, if used in a somewhat different manner, would undoubtedly be susceptible of some new and very striking decorative effects.

WE print elsewhere a portion of the very full and interesting paper read by Mr. Gale last week at the Civil and Mechanical Engineers' Society, on "American Construction," which dealt largely with the use of iron as the material for ordinary dwellings as well as public buildings. The practical advantages, for the time, of this mode of construction are in certain points undeniable; but if we are asked to regard this as the material and method for the architecture of the future, it must be concluded that the interest of architecture, from the point of view of artists and cultivated people generally, must become very different from that which it has hitherto presented. Architecture has hitherto been considered a central art of peculiar dignity and interest, combining artistic with historical significance. But it is difficult to say where either artist or archæologist will find much to fire their minds in a type of building which is dependent on the duration of angle-iron, aided by an indispensable preservative coating of paint.

LATIN LEGENDS ON AND OVER LINTELS.

IT is not a little significant that so many of the inscriptions over old doorways are in Latin. We might almost assume it was taken for granted that those who could read at all could read Latin. At least, we may be certain those who could express their thoughts in Latin were too impressed with its superior conciseness and dignity to use the vernacular. Boswell tells us Dr. Johnson peremptorily refused to re-write an epitaph on Goldsmith in English. "He desired Sir Joshua to tell the gentlemen that he would alter the epitaph in any manner they pleased, as to the sense of it; but he would never consent to disgrace the walls of Westminster Abbey with an English inscription." And if we turn to the pages of the "Citizen of the World" we may note Goldsmith curiously records two Latin inscriptions as carved on the garden-gates belonging to the Chinese philosopher.

Many Latin inscriptions are to be seen in Cumberland; sometimes on the homely and sturdy manorial houses; sometimes on lonely grey farmhouses, among the fells and becks and rocks; sometimes on smaller houses in the grey towns. Occasionally there occurs an English couplet or stanza, but the larger number are short, pithy Latin sentences. In some instances an inscription has been repeated in the same district by an admiring neighbour. Thus, at Blencowe Hall, near Greystoke, there is carved over the principal doorway:—

"QUOR SUM 1590
VIVERE MORI. MORI VITÆ.
Henricus Blencowe."

And at Millbeck Hall we may read,—

"1592. QUOR SUM. M.W.
VIVERE MORI. MORI VIVERE.
Nicholas Williamson."

As a rule, however, each motto seems to have been selected for its fitness for the purpose in hand, just as when the monkish builders of York Chapter-house looked upon their superb work with rapturous content, they inscribed on the lintel of the inner side of the doorway,—

"UT ROSA FLOS FLORUM
SIC EST DOMUS ISTA DOMORUM."

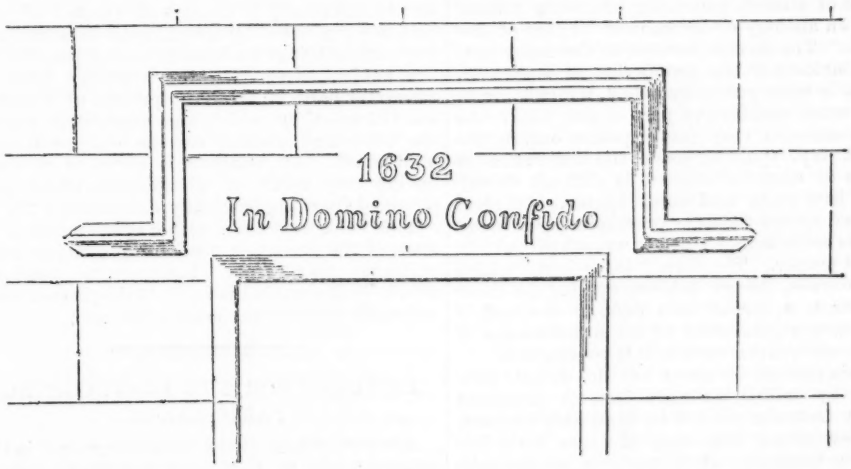
On Barton Hall is inscribed, "Non est hæc requies, 1628"; and on Barton Vicarage, "Non mihi, sed successoribus, 1637." A small house at Eamont Bridge is inscribed, "Omne solum forti patria est. H. P., 1671." And in Penrith there is a house inscribed, "Ex sumptibus Du Wil Robinson, Civis Lond. Anno 1670."

Sometimes there are several Latin mottoes in small out-of-the-way villages, associated with the arms of the families owning the properties on which they occur. In Northumberland, on the north-eastern coast, midway between Bamborough Castle and Dunstanborough Castle, for instance, is a village known as Beadnel, but called by its seafaring inhabitants Beadlin. It has a wide and spacious green with a church upon it, and two great houses with their grounds bordering one side of it, and a row of small stone houses facing them on the opposite side of it. One of these small houses has the date 1636 deeply cut on the lintel of the door. Over the next doorway is a coat of arms, with the motto "Redde diem" carved in stone. In the same row is another house with the same motto carved upon it. The village inn, too, which has been a pele tower, and still has a stone vaulted chamber on the ground-floor with walls that are nearly 5 ft. thick, has its Latin motto, "Dum vivo spiro," associated also with a coat of arms carved upon its principal front, which has been modernised.

Hexham has a few interesting examples of inscriptions on houses, both in Latin and English. An Elizabethan house in Market-street has on the door-head, in incised letters of quaint workmanship, "SOLI . DEO . GLELI . AC . SOLI . CREATORI . LAUS . IVLII . 15 . AO . DNI . 1641"; and a house of the Tudor period in Gilesgate has on its lintel "Honi soit qui mal y pens. W. S. B. Anno Domini 1638." There is also an ancient oak mantelpiece in Hexham with a curious inscription that has been accepted as Saxon.

Over the doorway of Felton Vicarage, still in Northumberland, within a triangular border, is an inscription, thus worded:—"1683. Has Ædes Posuit Robertus Henderson Trinitatis Colegii Cantab: Tempore Barrowi tempore Newtoni Socius Hujus et vicariæ non indignus vicarius Pietatis ergo posuit hoc patri filius testimonium 1756."

In Yorkshire, the old three-gabled hall at East Ardsley has over its doorway, dated 1632, the motto "In Domino Confido."



The fine quadrangle of Jesus College, Oxford, has a handsome doorway, of Stuart times, inscribed, "Ascendit oratio, descendat gracia." On a house at Hyde, Essex, is carved "Ostium patet cor magis." The vicarage-house at Colyton, Devonshire, has a Latin motto over a window, "Peditatio totum, meditatio totum."

Wynnestay has the following:—

"Cui domus est victusque deceus cui patria dulcis
Sunt satis hæc vitæ cætera cura labor."

Edinburgh still possesses numerous examples of Latin inscriptions on old houses, especially in its narrow wynds and closes, where modern improvements have not called for their demolition, as in the principal streets. In Rae's-close there is a house inscribed "Misere mei Domine A Peccato Probo Debito et Morte Sabita me Libera 1618." In Trench's-close there is, "Hodie, Mihi, Cras, Tibi," inscribed on a house. In Blackfriars-wynd this inscription occurs:—"In te speravi. Pax intrantibus. Salus exeuntibus. 1619." In Anchor's-close we may read, "Augusta adusum augusta." Two entrances to Advocate Hope's house, in Cowgate, are respectively inscribed, "Tecum Habita," "Hospes humo." The old Assembly-rooms are inscribed, "In Domino confido. 1602." On the house of Mary of Guise is the motto. "Laus et honor Deo." On a house in Sempell's-close, dated 1688, are both English and Latin inscriptions. The last-mentioned runs,—"Seeles Marret optima coelo." Over the door of a house in West Bow is carved, "Soli Deo honor et gloria." The Tolbooth, in Canongate, too, has the Holyrood arms on it, and the motto, "Sicitur ad astra," and many of the country-houses of the Scottish gentry and nobility have also preserved these curious mementos. These mansions, always picturesque, with their crow-stepped gables and high chimney-stacks, occasionally possess doorways with richly-moulded jambs. On the lintel of the entrance-door to the staircase of Darnick Tower, about a mile west of Melrose, is a central sunken panel, with the sacred monogram carved on it, with two others containing the initials of the owner and his lady at the time of the date, 1659, which is carved on a fourth panel. Boswell tells us, in his account of his tour in the Hebrides, he had special satisfaction in pointing out to Dr. Johnson the motto carved on the front of his ancestral residence, Auchinleck. This legend runs,—

"Quod petis, hic est
Est Ulubris animus si te non deficit æquus."

And he quotes in full a very lengthy inscription on Dunvegan Castle, with similar enjoyment.

Marlefield House has over the door the coat-of-arms of the Bennetts, and their motto, "Benedictus qui tollet crucem."

Houndwood House has a rhyming couplet:—

"Nunc mea Tunc hujus
Post illius, nescio cujus. 1656."

In a lane in Whithorn is a house, inscribed over the door:—

"Qui studet optatam cursu contingere metam
Multa tulit fecit que puer sudavit et absit."

And at Abbotsford, built in above the library window, is a lintel from the door of the Common Hall in Edinburgh University, with this inscription:—"Virtus rectorum ducemque desiderat, vitia sine magistro discuntur."

"Per Angusta ad Augusta" is inscribed over the door of an old house in Coire.

Occasionally we find Latin inscriptions within doors on chimneypieces, and on pieces of furniture. A chimneypiece at Knolle, Surrey, is inscribed "Æstate fryeo Hyeme incalisco."

A mantelpiece in the hall of the Vicar's Close at Wells sets forth:—"In vestris precibus habeatio commendatum, Dominum Ricûm Pomroy quem salvet Deus. Amen." Chairs were often thus decorated. The Glastonbury chair is a case in point. "Crestu sub pondere virtus" occurs on some chairs in a country seat at Llanbedr. This, however, is a branchlet of the subject that requires special treatment.

A TREATISE ON STEEL AND IRON.

MR. GREENWOOD'S latest book* covers a vast field, one too vast to be satisfactorily treated in a work of its dimensions. It is said to be written for the use of the "general student" and the "intelligent workman." It is a difficult thing to cater for individuals differing widely in experience and ways of thought, and in endeavouring to combine the necessities of two such opposite stand-points the author sometimes fails to satisfy either. In order to compress the vast array of facts within the compass of the volume, they are so closely packed, and the paragraphs and sentences are so curtailed, that they often require a good deal of analysis before one can arrive at the author's meaning.

The work represents an amount of research and a knowledge of the subject that are worthy of being brought forward in a more attractive literary form.

The book opens with a useful chapter on the meaning of terms. The important subject of refractory materials is then briefly considered; whilst ten pages are thought sufficient to convey all the information required on iron ores. A chapter of twenty-one pages exhausts the "metallurgical chemistry of iron," so far, at least, as the work under consideration is concerned. A good deal of information in a con-

* Steel and Iron: comprising the Practice and Theory of the several Methods pursued in their Manufacture, &c, By William Henry Greenwood, F.C.S., Assoc. M.I.C.E. &c. London: Cassell & Co. 1884.

densed form is given on blast furnaces and their appurtenances. Few people excepting those connected with the iron industries know what a change has taken place in the construction of blast furnaces within the last few years. Not very long ago we were using the ponderous masonry blast furnace, ranging from 30 ft. to 40 ft. or 50 ft. in height; but the introduction of the cupola furnace, in which the body is composed of iron plating lined with brickwork, has led to the building of furnaces over 100 ft. high, and 25 ft. to 30 ft. in diameter. In this part of the book are found some plain descriptions of the various types of hot-blast stoves, by means of which the waste gases collected at the throat of the cupola are used for heating the air fed to the furnace; sometimes, we are told, to as high as 800 deg. C. (1,477 deg. Fahr.). The mention of hot blast naturally leads to the consideration of water tuyeres, two types of which are illustrated, the Staffordshire and the Scotch coil. No mention is made of Lloyd's open-ended spray tuyere, which, we believe, is more frequently to be met with in South Staffordshire than the close-ended water-tuyere proper. A short account of blowing-engines, hoists, lifts, and elevators, gives some information on these subjects; whilst a chapter treating of fuel, blast, charges, yield, and waste gases of the blast furnace completes this branch of the subject. The Foundry follows, an account of which is condensed within a space of sixteen pages, for which the author makes an apology on the score of "limits of this volume." The section devoted to the many processes incident to the production of malleable, or, as it is more generally called, wrought, iron, is the most satisfactory part of the book. As Mr. Greenwood very justly points out, in the present day,—putting aside the difference in process of manufacture,—it is difficult to say where iron ends and steel begins, the steel produced by the Siemens process being in many respects more nearly allied to wrought-iron than to steel proper. The term "ingot iron," which is sometimes, though seldom, applied to these products, is a correct and definite one, and it would save a good deal of misapprehension if it were more often used in this connexion.

A description of some of the direct processes by which wrought iron is produced directly from the ore will be read with interest, notwithstanding that they are now little followed in England. It is, however, to the indirect processes, by which the great bulk of malleable iron is obtained from pig, that the most important section of this part of the book is devoted. The open-hearth fineries and dry puddling are first dealt with, after which a lucid description is given of the more universal wet puddling, or "pig boiling," as it is popularly called, in which the decarburisation of the iron is effected in a bath of fluid slag. The use of Siemens's regenerative gas-furnace for puddling, Price's puddling-furnace, the Ponsard regenerative gas-furnace, and the Bicheroux gas-furnace, are then referred to, and, after three pages on malleable iron castings have been sandwiched in, the various mechanical puddling-furnaces which have been tried in this country are well treated of; two good illustrations of Danks's revolving puddling-furnace helping to describe the system, of which such high hopes were entertained a few years ago,—hopes which have been, as yet, but poorly realised.

The mass of puddled iron when taken from the furnace is followed to the shingling and blooming machinery, where it is passed, before it cools, through the squeezers, or, according to more modern practice, under the hammer, in order to expel the slag and weld the puddled ball into the coherent mass of malleable iron, known as the shingled bloom. Descriptions of different forms of squeezers, the old-fashioned helve, and the more modern steam-hammer, which has almost superseded it, are given in a concise manner; although, no doubt, the student would gladly have a rather more detailed description of the latter machine. Sir Joseph Whitworth's hydraulic forging-press is also illustrated and described, after which the puddling rolls, used for the conversion of the shingled bloom into puddled bar, and mill-rolls of various kinds used for rolling sections, rails, plates, &c., are somewhat fully dealt with.

Six chapters, 133 pages in all, do not allow too much space in which to treat exhaustively the metallurgy of steel, but we are bound to confess that Mr. Greenwood has used his opportunities with considerable skill, and manages to convey a great deal of useful knowledge, considering the limited space he has here allowed himself. Analyses of various kinds of steel are first given, following which is a discussion on their respective characteristics, and the effects of different alloys usually met with in practice. The chapter concludes with a summary of the advantages of mild steel over iron for structural purposes, the principal of which is a gain of from 30 to 50 per cent. tensile strength. Steel is produced (1) either directly from iron ore; (2) by the carburisation of malleable iron; or (3) by the decarburisation of pig-iron. Several processes may be included under the first heading, but they are of small practical importance, and but little space in the book is devoted to them. The second methods comprise those by which tool steel is produced. Amongst these the cementation and crucible processes are briefly described and illustrated, and after this we come to the part of Mr. Greenwood's work which will probably be looked forward to with the greatest interest by the majority of his readers, and we think their only regret will be that it is so short.

The Siemens and Siemens-Martin processes are first described in this section of the work. Illustrations are given of the open-hearth regenerative furnace, accompanied by a concise description of the way in which it is worked. The manufacture of Bessemer steel (the world's production of which is 3,000,000 tons annually, we are informed) is there well treated of, the text being assisted by several good illustrations. Our author brings us down to recent practice in this subject, describing the improved form of converter used in the basic process of Thomas and Gilchrist, by which the phosphoric ore of the Cleveland district can be converted into mild steel. An analysis is given of a steel having only 0·021 of phosphorus, which was obtained from pig originally containing 1·22.

The book concludes with a brief mention of some of the processes used for producing steel castings free from honeycomb, amongst which Whitworth's hydraulic fluid-pressed steel naturally receives the most attention.

PICTURES FOR THE FORTHCOMING PARIS *SALON*.

ACTIVITY reigns at the present moment in the artistic world in Paris,—in the newly-created "kingdom of the artists," as has been termed the grandiose neighbourhood which has sprung up round the Avenue de Villiers (the Melbury-road and Hampstead and St. John's Wood combined of Paris), in the more Bohemian but no less industrious district which clusters round the heights of Clichy, and in the quieter classic Quartier Latin. The works for the annual *Salon*, which, as our readers are aware, opens, like our own Royal Academy, in May, have to be sent in during the first fortnight of this month,* six good weeks being necessary for the authorities to select and hang the several thousand pictures which are to grace by the 1st of May the numerous rooms of the Palais de l'Industrie.

What with the visits to the studios, which have, of course, been open to sympathetic friends, and the private exhibitions at the art clubs, it is not difficult for those familiar with French art to form a very fair idea of what promises to be the general character of the forthcoming *Salon*. Fortunately we are not likely, from all appearances, to hear the too usual cry that the exhibition is to be inferior to those of late years; at least, that parrot-like criticism has not so far reached us. The Continental artists, those at least,—and their number is considerable from every part of the world,—whose *ateliers* are situated in Paris, would appear this year to have made what may fairly be regarded as a marked effort. If it is possible to detect an evidence of a rather pronounced commercial tone in the character of their work and dealings, the artists can, after all, not be so much blamed for conducting their profession in the prevailing spirit of the day. Not that we see in the pictures now just leaving the easels of the painters for the galleries of the Palais de l'Industrie any (save in exceptional instances) outrageous bids for popularity such as have been too glaringly conspicuous at the Paris *Salon* within the last ten years, or any evidence of what may be called the evil effects of the mannerism of certain French painters, whose works of late have provoked a great deal of discussion and produced no small influence not only on the French school, but on our own. To those who have remained faithful to the older traditions it is gratifying to find that the pictures which are likely this year to form conspicuous features in the *Salon* have been created more or less on those old lines and old modes of study which have so justly gained the esteem of succeeding ages.

One thing is unquestionably apparent from the promise of the works to be exhibited in May next. The influence of the school of the "impressionists," which has of late years been so strongly developed at the annual *Salon* as to have positively driven from their walls the works of some of the older school, will, we feel justified in predicting, show itself this year in greatly diminished force. We have, of late, been sadly puzzled by the momentary fascination of "impressionism" and "realism" and a dozen other independent groups, but this year we suspect the French school generally will show a more marked allegiance to the methods and aims of the older masters, some of whom are still happily living; and many of those who, a few years ago, were less thought of, are likely to take a higher place than ever in the opinion of the true art-lovers. When it is remembered how influential a power the prevailing French taste in painting exercises on all the great schools of the world,—for not only the Continent, but America and England, it must be admitted, are tributaries to French art-teaching,—it is pleasant, yet only what might be expected, to find the eternal influences of the ideal again gaining the upper hand and triumphing over the momentary influence of fashions which, whatever may be said in their favour by their admirers and votaries, have never yet succeeded in holding a stable position during any lengthened period. Perhaps in only one feature,—a feature not sufficiently appreciated by critical English visitors to the French exhibitions both in Paris and London,—can such momentary excesses be excused and even commended; they denote a life and enthusiasm which we suspect will be found to be wanting in our own more respectable school which produces none of those so-called exuberant vulgarities which we are so fond of execrating in French art. Just as it has been said that religious schism denotes the existence of religious fervour, so do such artistic schisms as the periodical excesses of French art prove the presence of a youthful life-blood bubbling over with exuberant riot, such as those who truly love our English school would desire to see some symptoms of in our exhibitions, with their too fatal dead level of admirably respectable talent.

Coming more particularly to a few of the works we have seen by the holders of some of the more familiar names which will be represented in a few weeks in the Champs Élysées, it will astonish not a little English visitors this year who are well acquainted with our own Millais's manner, to observe the extraordinary resemblance between the portraits of Baudry and those of the eminent English Academician,—who, by the way, is known to be an admirer of the brushwork of his French *confrère*,—but, let us hasten to add, no one for a moment can fail to see the superiority of our own English painter. Carolus Duran appears this year to have returned in a measure to the execution of his earlier and more careful years. Gerôme, who still stands foremost in the school of painters whose unfailing hand is always on a par with their intellectual conception, has so far promised a characteristic canvas,—"Two Majesties," a wild, haggard lion of the desert, watching with an expression (not, as was complained of in Landseer, too human, but with rapt contemplation) the burning disc of the sun setting in the waves of the limitless ocean. Those two popular painters of the painful but ever stirring scenes of the Franco-Prussian War, happily less and less represented at the exhibition, Detaille and De Neuville, show no falling off in their powers, though we must not expect any startling hit from the works so far shown to the public. Meissonier, though he has produced and exhibited two small portraits, will, we may feel sure, be absent as usual from the annual "bazaar," as the *Salon* has by some been contemptuously termed. Benjamin Constant is not likely to specially distinguish himself this year, but he will be ably represented by one or more

* Paintings and water-colours from March 5th to 15th; sculpture from March 21st to April 10th; architectural drawings, engravings, &c., from April 2nd to 5th.

of the familiar Oriental subjects he treats so skilfully. Pasini will, among other works, show us a superb view in Venice,—a marvel of the pictorial architecture of which he is so profound a master. Cabanel and Chaplin will be represented by a number of portraits which are so much admired in the aristocratic circles of Republican France; Henner will show us some of his brilliant studies of the nude; Van Marcke his ever-popular cattle pieces, set in the midst of Troyon-like landscapes; in fact, it may be said,—apart, of course, from those artists whose works are not so familiar to the English public,—that each painter will be very favourably represented this year in the style in which he has gained his reputation. The very large American contingent who reside in Paris, and who are always well represented in the *Salon*, will be led this year by their brilliant young countryman, Mr. Sargent, whose style it is, however, none the less distressing to see becoming almost more "flimsy" than that of his master, Carolus Duran.

From a cursory examination of these and many other works, the impression remains of a decided advance in a direction which, we repeat, is opposed to "impressionism," "realism," or whatever the tendency may be termed. Landscapes and portraits we may expect to see in more than usually large numbers, but in the anecdotic and other works those who are admirers of the older methods may feel confident that a distinct step in this direction will be observed this year. Only a few days since, in bringing to a close the series of annual lectures which he has now delivered for twenty years in the famous "hemicycle" of the École des Beaux-Arts, M. Taine, amidst a hearty expression of sympathy in bidding his auditors good-bye, urged upon the rising generation of artists the necessity for the greater introduction of literary culture, of intelligence, into their creations; in fact, Reynolds's familiar precept of the necessity of one's colours being "mixed with brains." It is in this direction that our modern art can hope not only to hold its own with that of the past, but be saved from falling into the stagnation which inevitably follows on the absence of the revivifying action of contemporary influences,—influences which in the present day are so essentially intellectual in their general tenour.

MR. POYNTER, R.A., ON THE CONNEXION BETWEEN ASIATIC AND GREEK SCULPTURE.*

THE question now arises as to the influence which this art brought to bear on the beginnings of Greek art. Flaxman was only repeating a common tradition which was held by the Greeks themselves when he connected the two together. Dædalus, the mythical personification of the earliest growth of the arts of Greece, was said to have visited Egypt, and to have constructed the labyrinth of the Minotaur in imitation of that of Amenemhat of the twelfth dynasty, in the neighbourhood of Lake Mœris; he is also said to have built the propylæa of an Egyptian temple at Memphis, and to have executed his statues in the Egyptian style. This last attribution points undoubtedly to the belief in an Egyptian origin for Greek art; and the myth of the migration of Danaus from Egypt to Greece also indicates an early connexion between the countries, and points to some historical event, no doubt; for the Danai are mentioned in an inscription of Rameses III. as a race in league with others along the African coast whom he defeated. These, however, were mythical times for Greece. A more recent connexion is that which I have already mentioned, when during the twenty-sixth dynasty the Greeks were allowed to settle at Naucratis in the Delta, and to build a temple there, in what style we cannot now know. This was about the middle of the seventh century,—a time when Greek art and architecture were beginning to take form; and this would be the time, if any, when Egyptian influences would affect the character of Greek aspirations. It is, however, I think, very difficult to trace any such lasting influence from Egypt as is forced upon us when we compare early Greek art with Assyrian. Still it can hardly be doubted that the great monuments of Egyptian grandeur which the Greek visitors would see around them must have had some effect on the formation of their style, and it was some time during the seventh century that Theodorus of Samos, to whom I shall refer later on, is said to have visited Egypt.

Much has been made of the resemblance between the Doric column and the fluted columns of the rock tombs of Beni-hassan of the time of Osirtesen, of the twelfth dynasty, and the resemblance is, no doubt, at first sight striking: whence the idea was started by, I believe, Champollion, and taken up by Barry, Wilkinson, and others, that here was to be found the true origin of the Doric column. But the science of criticism has considerably advanced of late years, and casual resemblances, however striking, are not easily accepted as evidences of similarity of origin; and it seems almost certain that we have here an accidental likeness, and not cause and effect. Beni-hassan is a long way from the Greek settlement in the Delta, and the Greeks, if they borrowed their column from Egypt, would be more likely to take from a style of architecture which was universal, and which habitually surrounded them, than from remote and exceptional specimens. I have thought it worth while to refer you to illustrations of the Greek and Egyptian columns side by side, in order to point out the differences; which are really far more striking than the misleading resemblances. In the first place, the Egyptian column has a base and no capital, whereas the Doric has a capital and no base. Then the Doric order has architrave, frieze, and cornice, and is adorned with triglyphs and metopes, with their accompaniment of mutules and guttæ, all of which are invariable in the order; while the Egyptian column has only an architrave, with an imitation of the heads of rafters above. Then, again, the proportions are totally different to the earlier form of the Greek Doric, the resemblance being to the later and more refined form of the Parthenon column. Not to pursue the differences further, we find that to the early form of the Doric column there are really only two points of resemblance,—that both columns diminish from the base upwards, and that both are fluted.

M. Chipiez, in his "Origin of the Greek Orders," thinks it probable, however, that the Doric column first took its definite form under the influence which the massive stone construction of the Egyptians had upon these early Greek visitors, and there is no doubt some resemblance between the triglyph and the usual ornament introduced into the Egyptian cornice,—which, again, must not be pressed too closely; and it is undoubted that the earliest Doric temples which remain date from the end of the seventh or the beginning of the sixth century B.C. The fluting of the column, however, M. Chipiez derives from Asia, and for the details of the order,—cornice, mutules, triglyphs, metopes, guttæ, &c.,—he considers that the Greeks are indebted to what is usually called the solar myth,—a highly elastic theory, to which it would appear everything legendary may be traced.

But the Doric column is not the subject of my lecture, and I shall not attempt to clear up the mystery of its origin, for which we may, perhaps, have to return to the discarded theory of the wooden hut. I can imagine, however, just such a general influence of Egyptian on the beginnings of Greek sculpture as M. Chipiez has suggested for its architecture; but it is certain that Greek sculpture was not indebted for its beauty or style to the similar qualities which we have found in the statues of Egypt; nor can we trace any lasting Egyptian influence on Greek ornament.

The effect of Assyrian art is more obvious and was more durable. It would seem impossible to doubt the origin of the two principal features of Greek ornamental design, the palmette or honeysuckle ornament, and the guilloche. The great similarity, both in construction and detail, of a flower design from a glazed tile from the Palace of Khorsabad, with the patterns common on Greek vases, would also seem to point to an Assyrian origin for the latter.

It is difficult also not to believe that the Ionic capital had its origin in the volute so constantly found in Assyrian ornament, and which was, so to speak, ready made, to take just as it was, in the capitals of Assyrian columns.

We have thus a certain number of forms originating in Assyria and taking a prominent and permanent place in Greek art, to be transmitted through the various phases which architecture and decorative art have assumed in the process of their development, down to our own times. That Egyptian and Assyrian art found its way to the Greek colonies of Asia Minor by means of the Phœnician traders, has long been recognised,—not only to Asia Minor, indeed, but to all the coasts and islands of the Mediterranean; the details of the splendid Etruscan sarcophagus in the form of a couch, with two figures reclining on it, which is in the British Museum, seeming to show unmistakable derivation from Assyrian forms. Mr. Murray, who, in his recently-published history of Greek Sculpture, has gone into this subject, shows, by many instances taken from Homer, that the Phœnicians were the purveyors to the Greeks of all the better-executed objects of handicraft in those early times, when their own art, or industries rather, were of the very rudest type; and that commerce between the Assyrians and Phœnicians was fully developed he shows to be proved by weights having been found with inscriptions on them in both languages.

It also seems impossible to doubt the influence of Assyrian art on the treatment of the figure. It may be asked, if the Phœnicians traded with Egypt, as they undoubtedly did, carrying, as we know, Egyptian wares or Phœnician imitations of them to Assyria, why do we not also trace the influence of the much more beautiful Egyptian art? The cause appears to be this,—that the art of Egypt was, in the eighth and seventh centuries B.C., virtually dead, while Assyrian art was at that time in the height of its glory. A short account of its history will make this clear to you.

Assurnazirpal, who founded the Second Assyrian Empire, and who built the north-west palace at Nimroud, the earliest of their palaces which we know, lived in the tenth century B.C. This palace was covered with sculptured reliefs, now in the British Museum, which are as full of life and incident as the later reliefs, and only differ from them in style in giving a somewhat ruder and more stunted form to the human figure, and in being less richly and minutely covered with ornament. In other respects they are so similar in style and treatment that to an unpractised eye they may easily be confounded with those done 300 years later, so gradual was change in those early times and with Oriental races. After him a succession of kings,—Shalmaneser, Sargon, Sennacherib, Assurhaddon,—and last, though not least, Assurbanipal, in whose reign those lion-hunts were executed which you all know so well as the glory of our Assyrian collection in the British Museum, continued to rival and excel Assurnazirpal in the splendour of their palaces and the sumptuousness of their sculptured decorations. This series of monarchs brings us down to the destruction of Nineveh under Assuredilani, the Sardanapalus of the Greeks, in the year 632 B.C., who also built himself a palace, which, however, owing probably to troubles and invasions during his reign, was a very plain building without sculptures. By this time art was beginning to be an active force among the Greek races, and Assyrian art now ceased to exist with the transfer of power to the Babylonians. But a kindred art, no doubt, continued to flourish in the gorgeous palaces and temples of Nebopolassar, Nebuchadnezzar, and the succeeding kings who reigned during the 100 years down to the fall of Babylon under Belshazzar in 536 B.C. Of this period no remains of importance have come down to us, so complete was the destruction of that mighty city. It may have followed the Assyrian lines, or it may have continued the tradition of the very Early Chaldæan art, dating, it is believed, from 2,000 years before the Christian era, of which various important remains have been found at Tel-lo in southern Chaldæa. These fragments of statues, which are due to a non-Semitic race, show far more freedom and more character in the rendering of the human form than any Assyrian sculptures. The hands of these statues,—which, being in very hard stone, are well preserved,—are true in detail, and of excellent workmanship, and the few injured heads which have been found also testify to a higher feeling for portraiture and character. There is also a perception of the proper treatment of drapery; the arrangement is intelligible, the turn-back of the edge of the stuff is treated with a genuine observation of nature, and the folds indicated take the true direction. Of any perception of this kind the Assyrians were totally destitute from the first to the last;

* A lecture delivered at the Royal Academy on the 10th inst. For Mr. Poynter's previous lecture (on Egyptian Sculpture) see *Builder*, pp. 330, 366, *ante*.

there is never in their works the slightest indication of a fold, and the drapery, always represented in the same conventional forms, defies any attempt to understand the definite arrangement of the stuff.

I do not know that it is necessary for me to go into any detailed description of this Assyrian sculpture, which you must all know so well. Sculpture in its more extended sense, that is, statuary in the round, can hardly be said to exist; such statues as have been found are so flat and slab-like in form that they rather resemble high reliefs detached from a wall, than fully rounded figures; and the winged bulls and lions are of the same character. The Chaldæan statues, which were apparently made in greater numbers, have the same block-like form. The sculpture of the Assyrians, therefore, may be said to consist entirely of the long series of reliefs, illustrating the acts of the kings, with which we are all so familiar. Two elements are wanting in their treatment of the human figure, without which no art can appeal strongly to us, —the element of beauty and nobility of form, and the element of portraiture. In the details of the human figure they love to dwell on all that is most antagonistic to beauty; huge and strongly-marked muscles and knotted veins are the first features that strike the eye, and formidable strength is the only impression which they convey. The forms of the winged bulls and lions, which display an imposing but savage grandeur, are mere uncouth maps of an ill-understood anatomy; which would appear to constitute with the Assyrians their idea of a monumental treatment, for their lions, when represented as natural beings, are less exaggerated, and show much observation and a true feeling for nature in the details, as well as in movement and expression. Portraiture there is none; from the time of Assurnazirpal, whose statue is in the British Museum, to that of Assurbanipal, a period of over 300 years, there is absolutely no change in type of face, which, sometimes with a beard and sometimes beardless, is given indiscriminately to all their figures; the differences which exist between one face and another during all this time being due only to the slight modifications of style which took place, and to such varieties in the execution which are unavoidable. The representation is true to the Semitic type, and that is all; it is totally destitute of individuality. What this type is in these sculptures we all know: thick bushy hair, and beard growing almost up to the eyes, fierce thick eyebrows meeting over the aquiline nose with its thickened nostrils, sensual lips, and a half smile, which is far removed from the peaceful and dignified smile of the Egyptian monarch, and seems only sensual and cruel,—this face expresses a character which appears devoid of all that makes men admirable or amiable, and which, as the scenes in their historical reliefs show only too plainly, was not only dead to humanity, but took pleasure in the most hideous cruelties. An art dependent for its attractions on beauty of form cannot be expected from such a race. As regards composition, except for a certain rhythmical arrangement of the figures of the gods, which are terrible and imposing, and well-designed to fill the space they occupy, and a fine and original disposition of the wings in grand and sweeping lines in their winged figures, their reliefs are in far greater confusion than with the Egyptians; the groups and figures are scattered over the ground as in a map, without attempt at order or harmony. On the other hand, the soft alabaster in which these works are executed lends itself to great minuteness of detail and freedom of execution, which we find rising in the time of Assurbanipal to the highest perfection of delicacy and finish; and I need not expatiate on the well-known hunting-scenes, in which all animals,—horses, dogs, gazelles, wild asses, and, above all, lions,—are rendered with such an extraordinary life and fidelity to nature, that some German critics have attempted to account for it by suggesting that Greek artists may have been employed on them; a suggestion which I should have thought would hardly bear examination, considering the more than primitive condition of the arts of Greece in the middle of the seventh century B.C. It has been well pointed out that advance in the treatment of the human form was impossible among a people who seem to have gone entirely clothed. Even the labourers and slaves, shown in such numbers on the monuments, wear a tunic reaching from the neck to the knees. This dislike to nudity, even in the hottest climates, appears to be characteristic of the Semitic races; for the Arabs of the present day envelop themselves from head to foot, while the Egyptians and Nubians go nearly naked. Another cause of the absence of any efforts at beauty is the genuinely Oriental custom of suppressing the female sex; there is, except among the prisoners of the conquered races, no representation whatever of a woman on the Assyrian monuments, with the one exception of the relief in which Assurbanipal is seen feasting with his queen; a case so anomalous that it has been supposed that this queen must have reigned conjointly with the king in her own right, and therefore, have been entitled to a place in the record of the acts of the sovereign. Small nude figures in terra-cotta and ivory of the goddess Istar have been found, which are too hideous and repulsive for description, showing no ray of perception, I will not say of beauty, but of the most ordinary symmetry.

The sculptures from the palace of Assurbanipal close, as I have said, the history of Assyrian art, which now ceased to exist.

It is not known whether an independent Chaldæan art continued to flourish during the time when Babylon was subject to Assyria, and the want of monuments of the last Babylonian empire prevents our having any clue to the style of art practised under its rule. But the original Chaldæan sculpture looks like an art capable of expansion, and I cannot help thinking that I see in the figures from the sacred way at Branchidæ, which Mr. Newton told you were executed about the year 600 B.C., *i.e.*, about the beginning of the reign of Nebuchadnezzar, a resemblance,—which may, no doubt, be accidental, —to the block-like treatment of the general form, and to the broad flat folds in the Chaldæan figures. But a stronger affinity with both the Chaldæan and Assyrian styles of work appears in a number of sculptures, bearing among themselves a close family resemblance, though of varying degrees of merit, which you will see in the British Museum, just before the entrance to the Assyrian and Egyptian galleries, and which came from Idalium in Cyprus. Close under one of the human-headed bulls on the left, and, no doubt, purposely placed in conjunction with it, is a bearded figure of a man or a deity, so like it in general type and in the detail of treatment of the hair and beard, that an independent origin is impossible; the only differences we find are a greater refinement in the face, in which the Semitic type is less pronounced, and a genuinely plastic treatment of the drapery, though the folds of the upper garment still have the thin flat character that we see in the Chaldæan, while the thin tunic is represented by fine wavy lines, which well render the texture of the thin crinkled stuffs still woven in the East, and which form the habitual dress of the boatmen who row the caïques on the Bosphorus to this day. Also, in a number of female heads called Aphrodite, the hair is again identical with the Assyrian,—a double row of locks is arranged with perfect regularity over the forehead, each composed of three straight lines and a formal curl at the end. Cyprus was, as I have no doubt you know, a Phœnician island, and the Phœnicians adapted art of all kinds, Assyrian and Egyptian, and, in later times, Greek; and I do not know whether these fragments, which fill two or three cases in the Museum, are considered to be of Phœnician or Greek workmanship. Much depends on the time when they were executed. Cyprus fell into the hands of Sargon, king of Assyria, in the year 708 B.C., the population remaining Phœnician; but forty years later, when it is still paying tribute to Assyria in the reign of Assurhaddon, the names of the ten kings who reigned there, and are mentioned in an inscription, are mostly Greek; and among them is Ægisthus, king of this very Idalium. Mrs. Mitchell, in an important and exhaustive history of ancient sculpture newly published, relying, I suppose, on German authorities, makes them Phœnician, and places them as late as the middle of the fifth century. My own impression would be that they are decidedly earlier; that they are Greek, and that the association with Assyrian workmanship is evident; and that in any case they form an important link between Assyrian and Greek art. A further important relation between Assyrian, Phœnician, and Greek art is to be found in the attributes of the gods, into which I need not enter. I will merely refer to the fact that the goddess Istar, whom I have already mentioned, was the original of the Phœnician Astoreth, who became the Aphrodite of the Greeks, the centre of whose worship was at Paphos, in the island of Cyprus. But whereas Istar was, as we have seen, represented naked by the Assyrians, she is clothed from head to foot in these Cyprus statues, and was never divested of drapery by the Greeks until the time of Scopas, who, as Pliny tells us, made a naked statue of Venus about 420 B.C., previously to the celebrated statue made for the people of Cnidus by Praxiteles.*

ARCHITECTURAL ASSOCIATION.

SHAMS.

AT the ordinary meeting of this Association held on Friday, the 14th inst., Mr. Cole A. Adams, the President, occupied the chair.

The following gentlemen were elected members of the Association, viz., Messrs. F. W. Marks, R. W. Sampson, H. G. Driver, C. H. Driver, J. P. Oliver, C. J. A. Steven, J. G. Hart, C. A. Chambers, D. Q. Blow, and H. Messer.

A vote of thanks was passed to Mr. Gribble for allowing the members to visit the Brompton Oratory, and it was announced that the next visit would take place this Saturday, the 22nd inst., to the Scottish National Church, Pont-street, Belgravia.

Mr. A. B. Pite presented a copy of the "Sketch-Book" of the Architectural Association of Boston, which had been forwarded to him for presentation. In doing so he proposed a vote of thanks to their professional brethren in Boston. He added that if the members looked into this elegant sketch-book he believed they would tremble for their spurs, and he hoped it would stimulate them to do their best, or they would be in the uncomfortable position of finding that others could do better than themselves.

The Chairman, in putting the vote, remarked that perhaps Mr. Pite was too ready to surrender the palm to their American cousins. They had a great many men among them like Mr. Pite, whom he would not mind putting forward as an example of what the Association could do.

Mr. Hampden W. Pratt then read a paper on "Shams," going over much which has been said very often before in regard to truthfulness of design in building, and the necessity of the exterior design representing the interior arrangement; and concluded with the following remarks as to the use of certain special materials and methods:—

Coming now to the question of materials for building purposes, one must express regret that buildings are fast losing their local character, owing to the increased facilities for bringing materials from distant parts. I am not prepared to say that there are no advantages in this, but I think we should, when possible, make use of suitable materials at hand, and not go out of our way quite so much to introduce one thing and another. The question of using the right material in the right place, and for the right purpose, ought also to receive at our hands a great deal more consideration than it usually does. Touching the use of manufactured materials, it may be asked how far it is legitimate to use some of these? Bricks have been made from time immemorial of all shapes, sizes, colour, and contour, but I suppose it was not until the last century that they were shaped and worked after being burned. At the present time there seems to be quite a mania for cut, rubbed, carved, and gauged brickwork, and I would respectfully ask those who defend this treatment whether they really consider it legitimate? It seems to me a strange, not to say wrong, use to make of bricks. Most marvellous productions of the joiner-bricklayer's art may be seen almost anywhere,—bricks cut and carved like soap, and jointed with putty. Strange construction some of this! Terra cotta has been largely used, and, properly applied, it is a most valuable material. "Artificial" stone does not sound nice, but I think it may be used legitimately for paving, steps, and such purposes; but for moulded and carved work, and where hand-labour should be bestowed, I think natural stone ought alone to be used. Stucco has never been favourably received, except by speculative builders, who, at comparatively small expense, produce with it the forms and details appertaining to stone structures. It is needless to say that this treatment is entirely imitative, and unworthy of adoption by any architect. I will say no more on this point.

* The remainder in our next.

Of iron it is difficult to speak. It is probable that we are at present only on the threshold of its career; but it is to be sincerely hoped that the day will never come when whole iron fronts will supersede brick and stone construction in this country, as in some parts of America. Fancy describing galvanised iron cornices, window-cills, pilasters, and what not! Such construction seems repugnant to one's sense of fitness, and, as carried out across the Atlantic, must bear a strong resemblance to stone construction. One of our chief faults is in making cast iron to resemble and imitate wrought and hammered work, and architects are very often much to blame in this respect. As a structural material iron is invaluable; but it is now a recognised fact that to withstand fire it must be encased. This concealment we must accept as lawful, though, I admit, not wholly satisfactory; and I think we ought to make some effort to carry out this encasing in such a way as to show the purpose for which it is employed. One word before leaving the subject of iron. I think architects are too fond of substituting rolled-iron joists for brains. If a little difficulty arises in planning or construction, the problem is apt to be solved by the friendly use of iron girders or joists. They are made too much a convenience of, and I think we ought to recognise this.

Half-timber construction calls for some notice. I fear a great deal of the so-called "half-timber" work is considerably more than half brickwork, by which it is so often backed, and a good deal of it is merely a piece of framework 2 in. or 3 in. in thickness. Such construction is not worthy the name, and can only be characterised as sham.

Then as to mouldings in joiners' work, it is getting almost a rare thing to see mouldings worked in the solid. Mouldings are planted on, stuck, and bracketed out without any compunction, brads, screws, and glue taking the place of what was formerly sound, solid construction. I know it will be admitted that you would prefer to have solid moulded work, if expense were no object; but this admission only proves that you endeavour to obtain the effect of solid work by the sacrifice of principle. Why not be content with simpler work legitimately executed?

I have referred hitherto more particularly to what may be termed structural pretences, I should like now to say a word on those more strictly decorative, and it is in this direction where imitations abound. Marble being a costly material is in great demand, and there is an abundant supply of clever imitations. It surprises me to see architects so frequently using scagliola; it is a downright sham, of course, and so are all the marbles made of slate, and it would be a great blessing if all this false stuff could be swept away. Chimneypieces, perhaps more than anything else, are conspicuous features in a room, and how often they are constructed of false material, and boxed out to appear solid! If people are accustomed to endure false things at their hearth, no wonder they will put up with, not to say revel in, all sorts of imitations and deceptions elsewhere. The marble mania also extends to painting or marbling, even to the absurdity of making a metal bath resemble marble. Porcelain is also marbled, and the difficulty is sometimes to obtain goods of this class which are not imitations.

Graining is an old device, and seems never likely to die out. Trade decorators are perhaps most responsible for its survival; give such a man *carte blanche* to decorate your house, and I believe he would grain or marble it from top to bottom! Of late years a good deal of walnut wood has been used, and now walnut instead of oak graining is beginning to be used. If our friend the decorator takes a fancy to this sort of wood we shall one day be nauseated with walnut graining. It is a poor excuse which people offer for graining when they say that it is done to preserve the wood, and wears ever so much better than paint. One thing they omit to add is that the woodwork grained is of an inferior kind to that imitated—herein is the dishonesty. I do not say that one is deceived into believing that the graining is the natural wood, but it is none the less a fraud. What shall we say, too, for veneering? Veneering of wood hardly comes within the range of architect's work: it is more in the cabinet-maker's line, and it is to be hoped architects will give no countenance to this method when they are called upon to design furniture.

But we are often concerned not only with things we design, but with articles we select, and it is necessary that we should follow the same principles in one as in the other. The market is flooded with imitations of all sorts; we must be on our guard lest we unwittingly encourage the manufacture of that which is false. It is within our power, possibly, to create and maintain a healthy tone, and we should let no opportunity pass for condemning what we believe to be bad and unprincipled. There is more temptation to produce imitations with the manufacture of new materials, or the introduction of new inventions, and, therefore, we should carefully watch such, and give no encouragement to things of a doubtful or dishonest nature.

With the general adoption of the electric light, we shall be called upon to consider the appropriateness of fittings for it. We are too conservative in this respect, I think; there is too much resemblance, for instance, between the fittings used for candles, gas, and the electric light, and imitations easily creep in. An example of what I mean you will find in the Arbitration Room in this building, where the gas in the chandelier passes through imitation candles,—a very senseless contrivance, I think. I do not know who admires such things,—I should not think architects do; and yet this particular chandelier is placed in a room mostly used by such. But probably you will not attach much importance to that; for you will no doubt agree with me that the ventilation of this room is a sham, and, if we were anybody else than architects, I expect we should have called for or applied a remedy by this time.

In the discussion which followed,

The Chairman said that the question as to what were shams was one of considerable magnitude. There was no doubt that the influence of locality upon work was being rapidly lost, at the same time that the local characteristics of men were being swept away. The result was a kind of levelling-up, which the artist must regard with regret. Materials were now brought a long distance for the construction of a house, but in course of time additions or repairs had to be made with different materials, the result being a want of continuity in the building. Mr. Pratt had run a tilt at gauged brickwork, but he could see no sham in moulding or carving a brick which was specially prepared for that purpose. In the matter of durability too, the carved and gauged brickwork of London would stand better than stonework. He could instance some pieces of Queen Anne work in the metropolis, which was as sharp as when first cut. In regard to concrete, again, he saw no reason why it should not be employed, cast into forms giving durability, a perfectly water-proof surface, and a large saving in money. Iron seemed to meet with the general condemnation of architects. They were told by purists that it should be shown, but he might remark that the framework of our bodies had been covered with flesh by the Divine Architect. Then came the vexed question of marbling and graining, and on this point the feeling of the members appeared to have changed of late years. He had defended graining some time ago. There was nothing which wore so well, and it went with anything which was not extremely æsthetic. Graining was one of the characteristics of the English people, and, as a general all-round decoration, it was the best. Exquisite effects could be got on a large scale by using veneering, when the cost of wood in such cases would have been quite prohibitive. Mr. Burges had even proposed to veneer St. Paul's with marble slabs.* The Chairman concluded by observing that in a too great desire for truth they might overstep the mark.

Mr. Pite remarked that a distinction should be drawn between imitations and shams. Imitation was the sincerest form of flattery, and they could imitate without falling into the use of shams. Mr. Pratt had referred to many things which were good in their way. Graining was practised because of its good wearing nature, and stucco was used on account of its being waterproof, and especially useful at seaside places. As to graining, if a man liked black marble, splotched with yellow, there was no reason why he should not imitate it. The old Queen Anne plaster work was plaster work for its own sake. All great artists had made use of shams, and the greatest works had some shams in them. The genius of a real architect endeavoured to rise above the mere confines of utility and the requirements of his building. He might instance the dome of St. Paul's, while the man who planned the front of Peterborough Cathedral was a real genius, working out as he did a most beautiful poetic idea, having no relation to the building behind. Mr. Pratt would have to denounce these and such buildings as Salisbury and Lincoln Cathedrals, if he insisted on the interior of the building forcing itself to the outside. When a man wished to rise to a grand flight of poetry he was often met by the remark that it was not truthful. The speaker concluded by proposing a vote of thanks to the lecturer.

Mr. Stannus seconded the vote, and added that many things which had been called shams deceived nobody, nor did they pretend to deceive. He agreed with the chairman in the matter of graining. Combing had the effect of hiding the work without suggesting an elaborate grain. One saw everlasting swaggery on much of the Queen Anne stuff which had been put up in London, and he sympathised with Mr. Pratt in his denunciation of this. With regard to stucco he could see no reason why it should not be used. He could imagine a building with terra-cotta window dressings and corners, and that portion of the screen which went from pier to pier to enclose the building might be covered with stucco, rough-cast, or plaster treated in a sgraffito manner. As to veneer, so long as it was kept to panels and the edges clipped by the mouldings of the stiles, there was no reason why it should not be used. Mr. Burges found that in decorating Worcester College Chapel marble gave a halo of changing colour which no other material could afford. It was the changefulness of colour which, in Mr. Ruskin's eyes, gave it beauty. There was a great deal of sham in this sense in Worcester College Chapel, but it was not shameful. Many people had an idea that rudeness was truthfulness, but the test ought rather to be whether the deceptive intention were present, and, in the majority of instances, this was not the case.

Mr. J. A. Gotch thought it was well to have the ideal put before them. In the Association they might strive for the ideal, while upstairs in the Institute they might carry out the practical as well as they could. Architects were compelled, to a great extent, to carry out the views of their clients. Some years ago he had intended never using enamelled slate mantel-pieces or graining, but he had been compelled to modify his intention. It would be a waste of money in many cases to have mouldings in the solid, and mitred mouldings were a distinct advance in the art of joinery. He congratulated Mr. Pratt upon his paper, and considered that, although they might not attain the height which he had indicated, they might, at least, get up to the first landing.

After one or two other remarks the resolution was put and carried.

Mr. Pratt, in making a short reply, admitted that his view was rather an ideal one, but if it could not be realised, it was an advantage to try to get half way.

* *De mortuis nil nisi bonum.* It is true that Mr. Burges did make that monstrous proposition, but it is hard that it should be remembered against him.—ED.

ACTON DRAINAGE.

THOUGH the parish of Acton is in the Thames valley, and its northern boundary not much more than half a mile from the banks of the river, it has hitherto been entirely independent of that great water-way as a sewage outlet. Acton has never come under the view of the Thames Conservancy Board in their efforts to keep the river free from pollution by sewage and other excrementitious matter. Richmond, Twickenham, Chiswick, Hounslow,—in fact, all the parishes within the district of the Lower Thames Valley Sewerage Board,—have been recipients of many warnings on the point from the Conservancy Board. These had no retrospective application to Acton. Still that parish is at present in the midst of the throes of an excitement over a new drainage scheme for the district, which is probably as much in want of proper means of drainage disposal as some of those parishes in the district of the Lower Thames Valley Sewerage Board. By the Act of 1855, the Metropolitan Board of Works were empowered to utilise, as carriers of sewage, certain brooks or rivulets flowing into the metropolitan district; and one of these, Stamford Brook, on the western boundary, was so utilised. Acton, which is just outside the

metropolitan area, was then a small village of very few houses; now that village has become a thriving town of considerable dimensions, with a population of about 20,000. With the increase of this town it soon became a question with the Metropolitan Board whether they should continue to allow the sewage,—now considerably increased in volume,—to flow, as heretofore, into this brook, thence into the Metropolitan system, and so increasing the expense of pumping at Barking, to which process Acton contributed nothing. A case was tried which led to the important decision and interdict of Lord Justice Fry, which was to the effect that the sewage only of houses existing in Acton at the date of the injunction was to be allowed to flow into this brook; while the sewage from houses built subsequently to that date was to be excluded. Deprived, so far as the future was concerned, of the outlet which it had used from time immemorial, Acton was placed in a curious, if not serious, position. It obviously meant the construction of a comprehensive and complete scheme of drainage for the whole of the parish, even though Acton had the advantage still reserved to it of the use of the old outlet so far as existing houses were concerned. If all additional new houses could have been erected together in one part of the parish, then it might have been possible at comparatively small expense to construct a system which would meet the sanitary requirements of these new houses. But Acton, like most suburban towns, is increasing on all sides, and drains must be laid along the newly-formed streets in whatever part of the parish they may be. That being the case a complete system for the whole of the parish seemed almost a necessity, and it was natural that the local authorities there should still try to come to some arrangement with the Metropolitan Board. Soon after the issue of the injunction above referred to the Local Board endeavoured to open negotiations with the Metropolitan Board on the basis that if the latter permitted the Acton authorities to put the whole of the sewage of the parish,—both of the houses existing and to be built,—into the Stamford Brook, Acton would withdraw the great volume of storm or surface water which flowed into the Stamford Brook, and which added materially to the cost which the Metropolitan Board had to pay for pumping at Barking. It is computed that 10,000,000 gallons per day of storm-water, gathered not only from Acton, but from the wide upland districts of Harrow Hill, flow into this brook. It was argued, and not without some reason, that it would be an advantage to the Metropolitan Board of Works to be relieved of this great volume of storm-water. But the Metropolitan Board in explicit terms informed the Acton Board that it would not open negotiations on any basis which would involve the admittance of fresh or additional sewage into its system. There seemed no alternative but for the Local Board to rely on its own resources, and the local surveyor, under the guidance of Mr. Bailey Denton, was instructed to design a comprehensive scheme and prepare plans for the same. This scheme included a complete system of sewers, the erection of a pumping and sewage station, from which the effluent was to flow, by means of a culvert, into the river Thames. The Acton Board proceeded forthwith to apply to the Local Government Board for sanction to borrow 75,000*l.* with which to carry out the scheme. Several sittings of an inquiry by Major Tulloch, inspector, have been held on the subject; but the inspector had submitted to him at the outset a very important, though subsidiary, question by several owners of estates in Acton, viz., how to provide temporary means of sewage disposal for the new houses built subsequently to the date of the injunction by Lord Justice Fry. After evidence was taken on this point the difficulty was got over by the Local Board undertaking to give this temporary relief by means of cesspools, at its own expense, until the permanent drainage system was completed. Meanwhile a large body of the ratepayers had become alarmed at the proposal to spend so considerable a sum as 75,000*l.* on a drainage system. Public meetings were held, and a Ratepayers' Drainage Committee was formed. This committee have had interviews with the Metropolitan Board, and they have managed, where the Local Board failed, to re-open the question. It is now regarded as a significant fact that Sir Joseph Bazalgette, Engineer to the Metropolitan Board, has been recently appointed consulting engineer to the Acton Board in its present difficulty, while Mr. Bailey Denton has been requested mean time to suspend operations in regard to the scheme in embryo. The Metropolitan Board have already so far shown their disposition to treat with Acton in the temporary concession which it has made in allowing a part of Acton (Bedford Park) to drain into Stamford Brook, by means of the new deep sewer recently laid in that estate, which, along with the pumping-station, were then rendered useless by the injunction of Lord Justice Fry. Bedford Park, having to depend for its drainage on the old shallow sewers, which were in an inefficient and dilapidated condition, though running into the Stamford Brook, has been placed at a disadvantage, from a sanitary point of view. It is understood, now that improved drainage has been introduced, building operations at Bedford Park, which have long been at a complete standstill, will be renewed. There is now reason to believe that the Metropolitan Board of Works will enter into negotiations with the Acton Board with a view of arriving at an arrangement by which the whole of the sewage of Acton will be kept out of the metropolitan system, in which case the Metropolitan Board would necessarily pay compensation for the relief. It is also considered probable that, once the Metropolitan Board is relieved of the Acton sewage, it will divert the Stamford Brook (which, under the suggested arrangement, would contain but storm-water) into the river Thames, by means of a new culvert, and thus save the useless expense of pumping at Barking the large volume of stormwater which at present passes into its system through the Stamford Brook.

WINDOW IN CHURCH OF SS. GIOVANNI E PAOLO, VENICE.

SIR,—As you have been good enough to have the drawing of St. George from the window of the Church of St. John and St. Paul, Venice, engraved, I thought it might interest your readers to know something of the circumstances connected with it, and to have some information about its designer.

As I could find no illustration of this beautiful window, the delight of all artists visiting Venice, I determined, if possible, to get a drawing of it made, to show in my lecture at the Royal Academy on Coloured Glass*; but I ascertained that the window was boarded up during the repairs of the church. Thanks to the Venetian architect, Signor Giacomo Boni, a descendant of one of the Bons who designed the Ducal Palace, enough of the boarding was removed to get the compartment of St. George copied, which was done by Signor Alessandri under the most unfavourable conditions, that of the weather not being the least. There is reason to believe that the window is not of stained glass, but merely painted in varnish colours on the glass, and not fired. I append a translation of the parts of Signor Boni's letter relating to the works of the Vivarini, and possibly some of your readers may be able to answer the questions.

GEORGE AITCHISON.

No. 150, *Harley-street, W.*

The Vivarini, a family of the island of Murano, near Venice, produced a series of artists, who started a new style in the Venetian school; the most celebrated were Antonio and Bartholomew; about the last, Vasari writes, in his Life of Carpaccio: "Bartholomew Vivarino, of Murano, did very well in the works he executed, as may be seen in the picture that he painted for the altar of St. Lewis, in the Church of St. John and Paul, as well as in many others."

Under one of the figures in the picture at St. John and Paul one reads, "Bartholomeus Vivarinus de Muriano pinxit 1473." The large window of painted glass, on which are shown St. George, St. Theodore, the Virgin, Doctors, and Dominican Saints, was executed from the cartoons of Bartholomew; in 1814 the window was restored (they write *renewed*), but I hope to be able to show how much remained of the original work† (of the St. George, amongst the others, the former of which you have already received), and that Vivarini not only furnished the cartoons, but painted the glass himself. In the St. George, it is true, there are restorations, as in other parts of the window, which are easily recognised by the colour, which has not the force of the original, and may be washed off, while the original adheres surprisingly. . . . Other works remain of B. Vivarino, the Madonna and Saints in the picture gallery at Bologna ("Anno Domini 1450, hoc opus inceptum fuit Venetiis et perfectum ab Antonio et Bartholomeo de Murano, Nicolao V., Pont. Max. ob Monumentum R. P. D. Nicolai Card. tit. sanctæ crucis"), which was in the Certosa of the said city. Another picture of the two Vivarini is or was at St. Francis at Padua (but I do not recollect it). In our Academy of Fine Arts we have a picture of Bartholomew's that came from the suppressed Church of the Certosa-in-Isola, and represented a Madonna and child and four saints ("opus Bartolomei Vivarini de Murano, 1464"). At the the Royal Museum, Naples, there was another Madonna and Saints ("opus Bartolomei Vivarini de Murano, 1465"). The historian Ridolfi records a Madonna and child, private property, with the inscription, "Bartholomeus Vivarinus di Muriano pinxit, 1473."

In our Church of Sta. Maria Formosa we have a picture in three compartments, painted in 1473-75. In the Certosa of Padua (two miles outside the Codalunga Gate) there was a picture with the epigraph, "Opus factum Venetiis per Bartholomæum Vivarinum de Murano, 1475," which, Moschieri states, was bought in 1775 by the British minister, who sent it to London (I do not know where it is to be found. You will make a real present to our historians of art if you could learn something about it. Perhaps it is already in the National Gallery?).

We had in Venice a Madonna of B. Vivarino, painted in 1475, which was private property, and was sold. In the Church of St. Euphemia there is a Madonna and St. Roch, on a gold ground ("Barth. Vivarinus pinxit 1480-82"). In the Church of the Frari there is a picture in three compartments, with an inscription under the Madonna, "Bartholomæus Vivarinus pinxit 1482" (Ridolfi reads it 1436, and Zanetti, 1487). In the Royal Picture Gallery at Berlin there is a St. George, on horseback, who kills the dragon with a lance, and in the distance is seen the daughter of the King of Libya, liberated by the saint, the inscription says: "Factum Venetiis per Bartholomeum Vivarinum de Muriano pinxit 1485." This picture might be compared with the St. George in the window of St. John and St. Paul, but, as ill-luck will have it, I have neither a photograph nor a drawing. I may, perhaps, find it published in some illustration of the Berlin Museum. In San Giovanni in Bragola at Venice there still exists a "Resurrection of Christ," cited by Lanzi, in which the inscription has perished. Mark Boschieri read the date 1498. In St. Antonio of Pesaro Lanzi saw a picture with the titular saint and three young male martyrs, under which was the name of Vivarini.

Morelli wrote in German under the name of Ivan Sermolieff, and in his book, called "The Works of Italian Masters in the Galleries of Munich, Dresden, and Berlin," he says, "There is also an excellent picture by Bartholomew (who was a potter, and to some extent a pupil of Anthony's) in the Berlin Gallery. I do not mean St. George (No. 1,160), which is only a studio work of the artist's, but the interesting picture in which the Virgin is represented with the child clothed, sitting before her on a balustrade; above her there is a festoon of fruit."

Concerning Bartholomew's works, Morelli also remarks: "The pictures painted wholly by the master himself, or at least for the greater part, never have landscape backgrounds, but either gold or air, and are besides easily discerned, by the accuracy and fineness of their contours and execution, from those painted by his assistants from his cartoons; while the latter are furnished with the inscription, "Factum per Bartholomeum"; the former,—viz., the works of Bartholomew himself,—bear either the inscription, "Bartolomeo de Muriano pinxit," or "Opus Bartolomei de Muriano" (the Venetian School).

* See *Builder*, pp. 315, 332, *ante*.

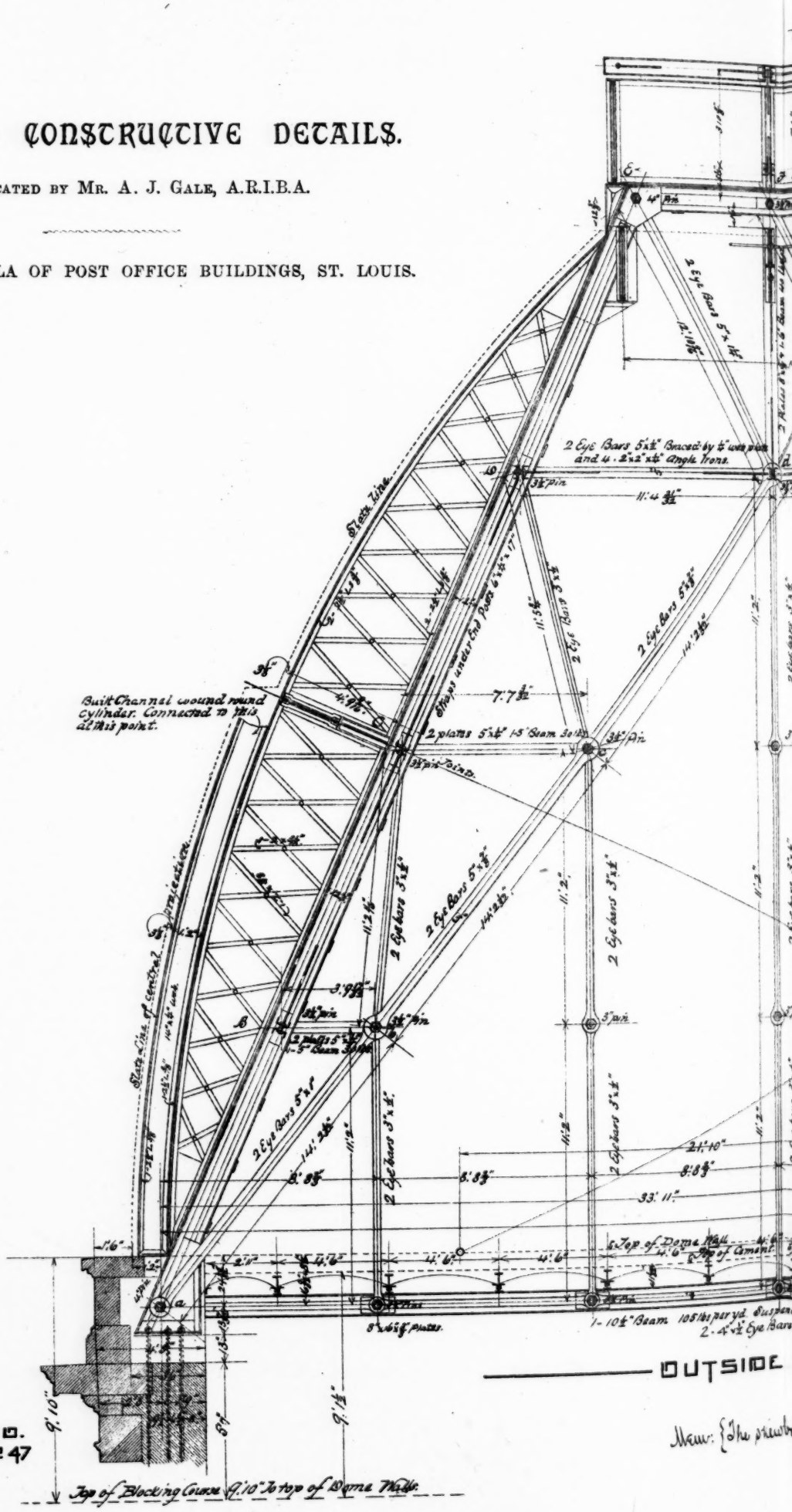
† When the window is uncovered, and I can examine it.

The Pepys Memorial.—A mural tablet, placed in the Church of St. Olave, Hart-street, City, and surmounted by a bust of Samuel Pepys, Secretary to the Admiralty in the days of Charles II., was unveiled on Tuesday last. The American Minister, in a brief address, spoke of the character of Pepys and of the ever-entertaining diary which he had left of his times. The memorial was designed by Mr. A. W. Blomfield, architect, and executed by Messrs. Earp, Son, & Hobbs, of Lambeth

AMERICAN CONSTRUCTIVE DETAILS.

COMMUNICATED BY MR. A. J. GALE, A.R.I.B.A.

I.—ROOF OF CUPOLA OF POST OFFICE BUILDINGS, ST. LOUIS.


2 Eye Bars 5"x1" Braced by ½" web plate and 4 - 2"x2"x¼" Angle Irons.
Slate line.
Built Channel wound round Cylinder. Connected to this at this point.
2 plates 5"x¾" 15 Beam 30 lbs
2 Eye Bars 5"x1"
2 Eye bars 5"x⅞"
2 Eye Bars 3"x1"
Top of Blocking Course 9'10" to top of Dome Plate.
OUTSIDE

U.S.C.H. & P.O., ST LOUIS. MO.
IRON WORK DRAWING No 47

E.O.N.
June 9 '12

Norm: The pitch

Wyman & Sons, Photo-Litho.

Floor of Tower

For details of Platform See Drawings Nos. 33, 39

Brackets for Rim Girder

Straps under Chord are 6"x4"x17" with 4-¾" Rivets

2 Eye Bars

3 Rods 3"x1" 1-6" Beam

2 Rods 3"x1" 1-6" Beam

One Plate 18"x¾" 2 Plates 12"x¾"

Slate Line

Rivets as in Inside Truss

Joints

2 Plates 12"x¾" 2 Plates 12"x¾" 4 3½"Ls ¾"

2 Eye Bars 5"x1"

For details see Drawings Nos. 53, 51, 50

Radius of Slate line

Radius of Slate Line on front.

Floor of Dome

Suspended to carry Q Stringer Beams. For detail see Drawing No. 49, 56.

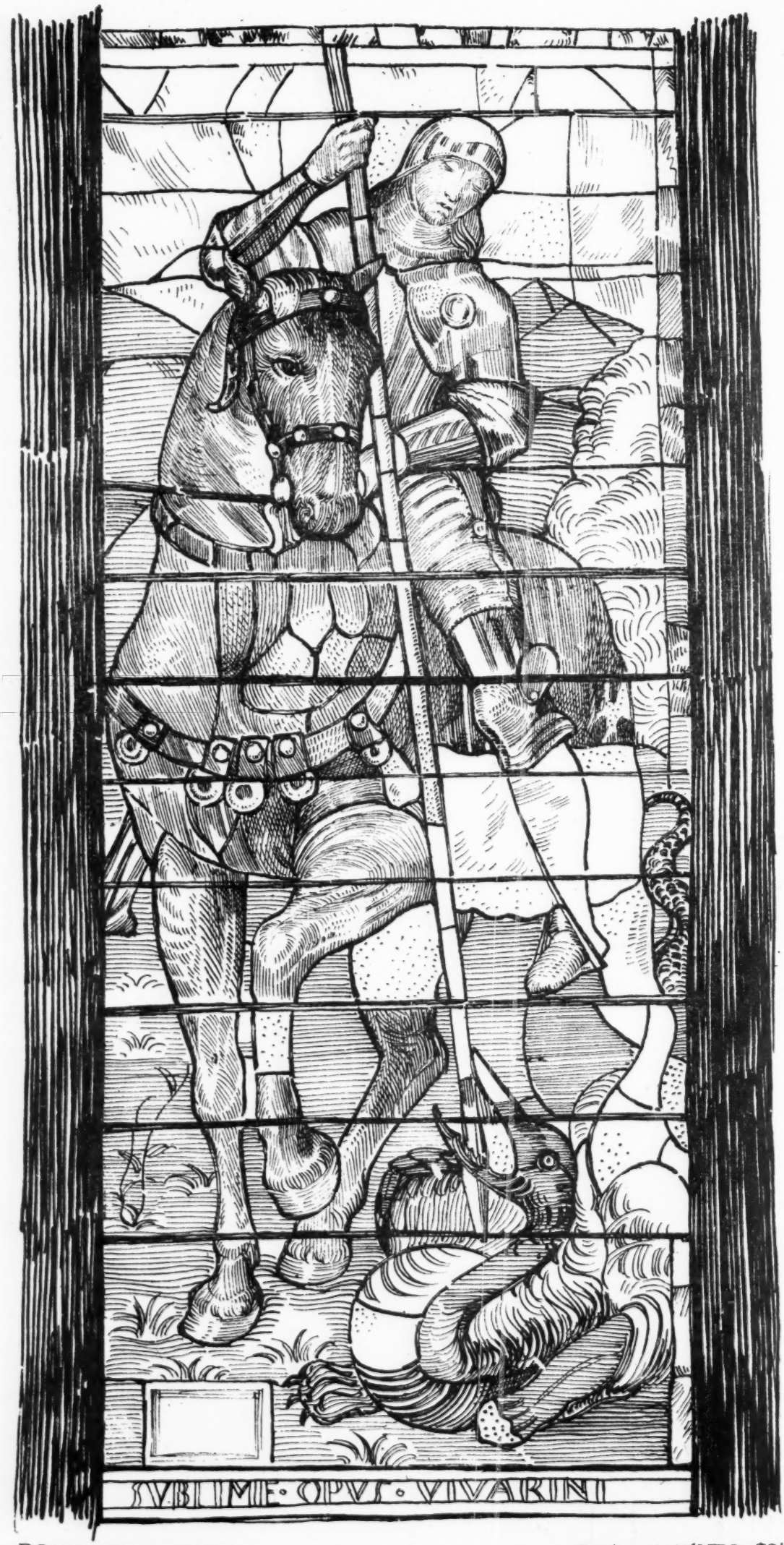
Eye Bars on each side of suspended Beam See details. Drawing No. 49.

INSIDE TRUSS OF DOME—INSIDE ELEVN.

(Sidebrace angles on Q Beams to be omitted)

SUPERVISING ARCHITECT
TREASURY DEPARTMENT.

C. Queen St. London, W.C.



DRAWN FOR LITH·
W.R·LETHABY

FROM A WATER COLOUR DRAWING
BELONGING TO C. AITCHISON ESQ ARA:

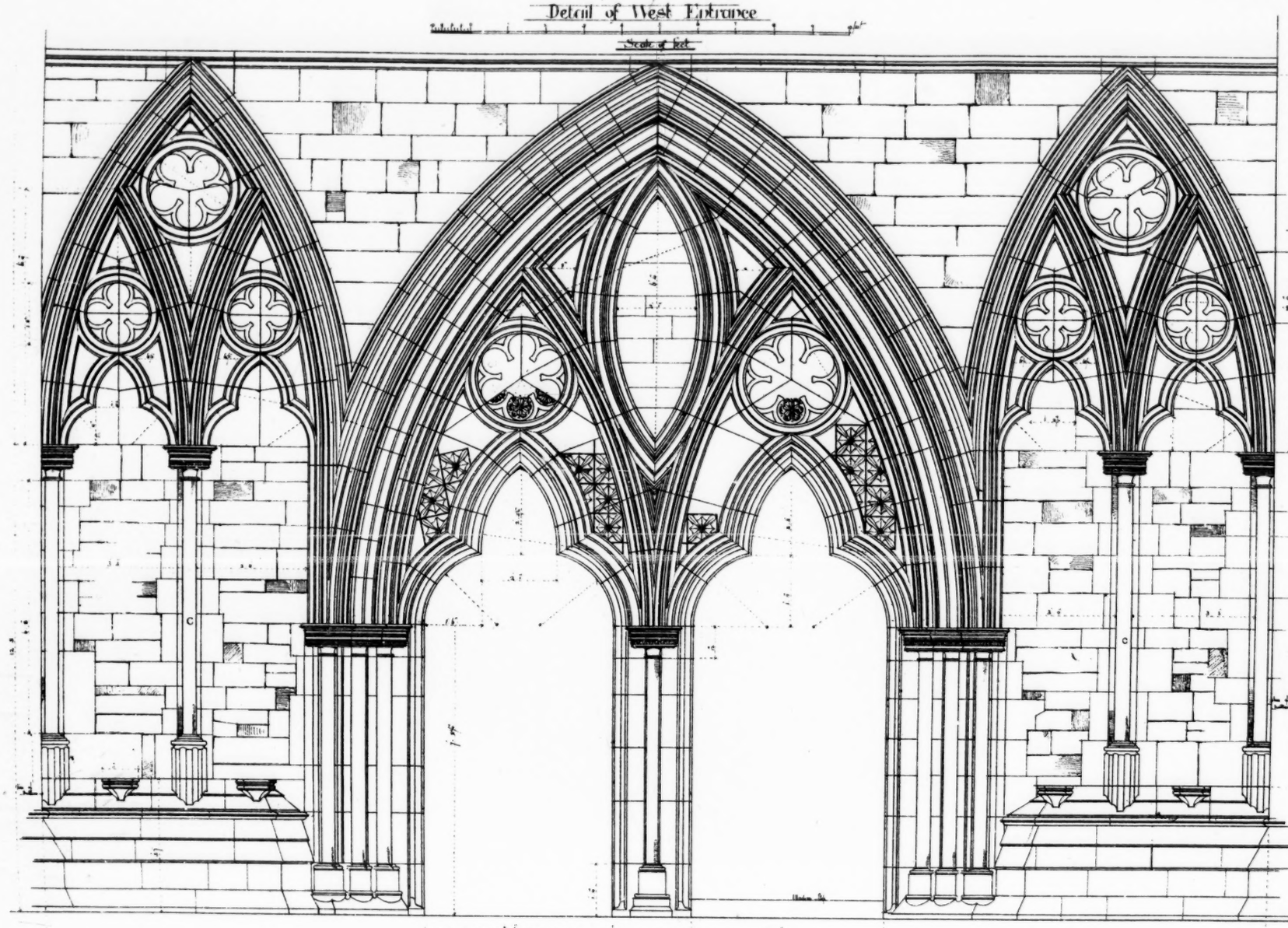
CLERESTORY WINDOW IN SS. GIOVANNI E PAOLO, VENICE.

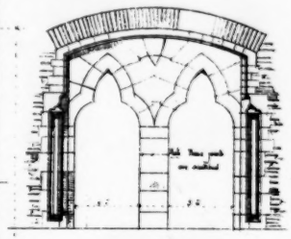
C.F. Kell Photo-Lith & Printer.

Tintern Abbey

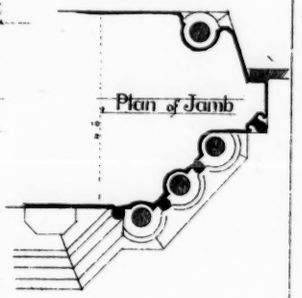
Detail of West Entrance

Scale of feet





Interior Elevation



Plan of Jamb

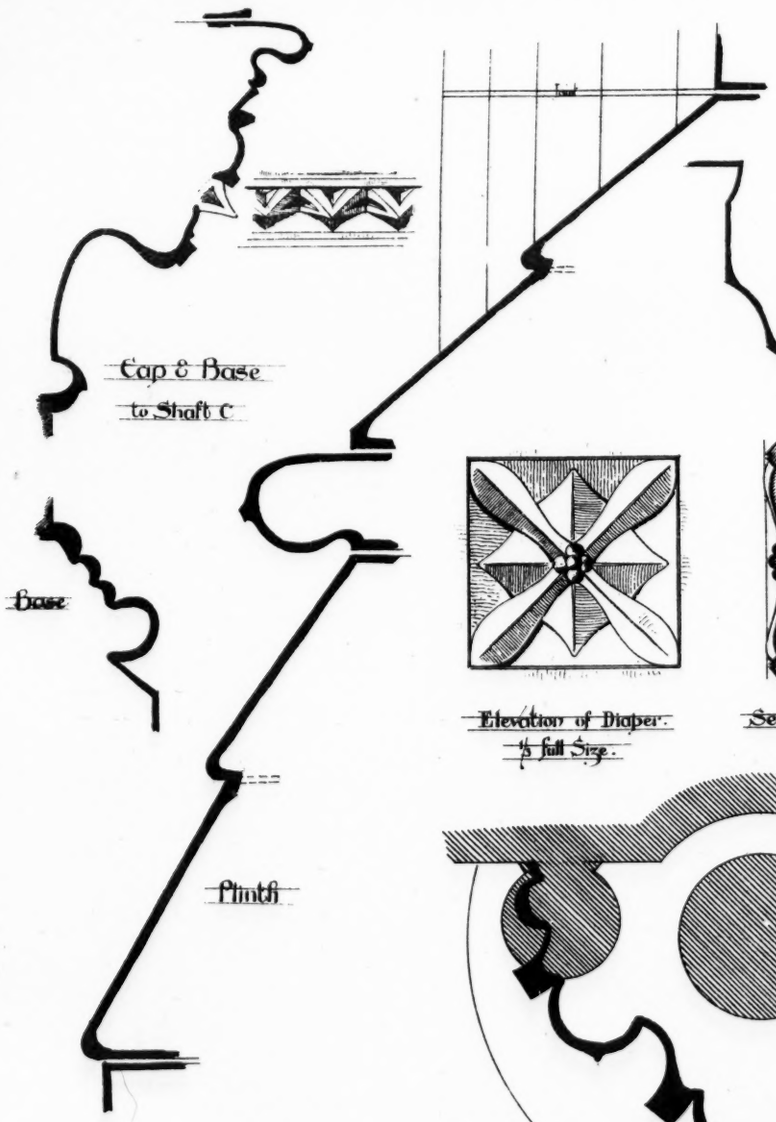
J. Strong

C. F. Kell Photo-Lith & Printer

8 Castle St. Holborn, London, E.C.

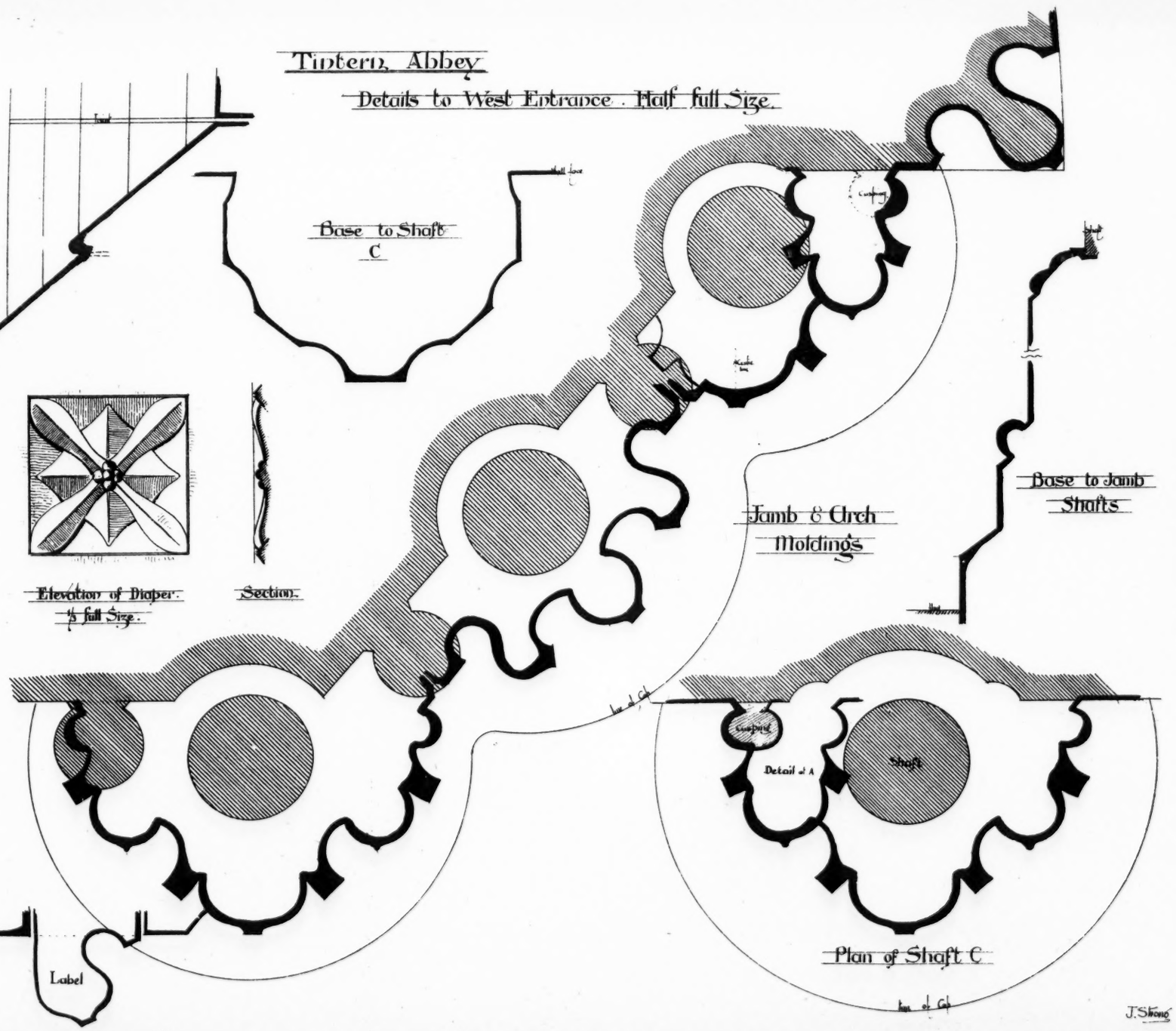
Tintern Abbey

Details to West Entrance. Half full Size.



Elevation of Diaper.
½ full Size.

Section.



THE BUILDER, MARCH 22, 1884.

C. F. Kell Photo-Lith & Printer

8 Castle St Holborn London E C

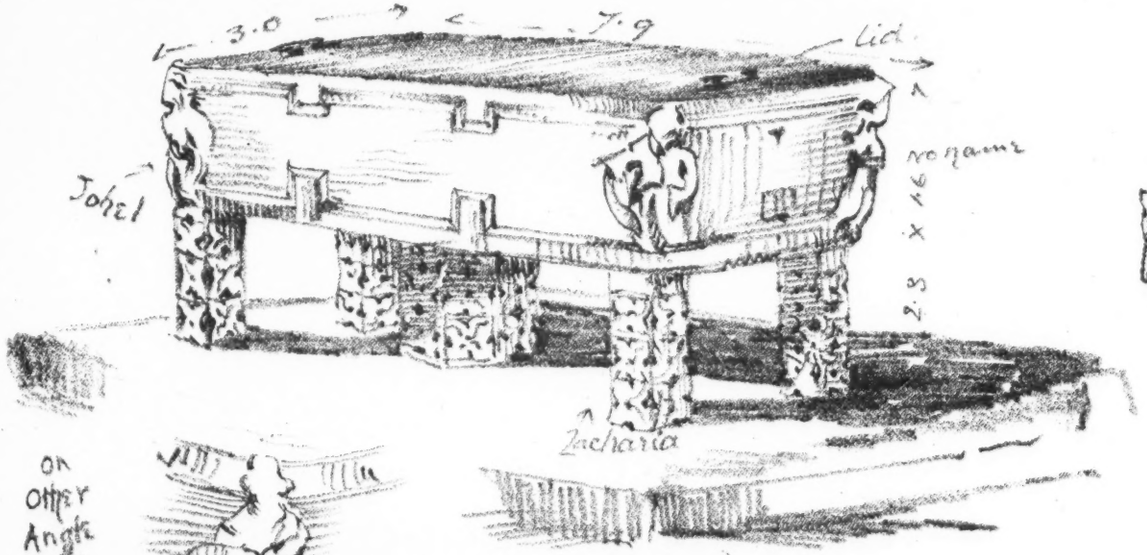
C.F. Kell. Photo-Lith & Printer.

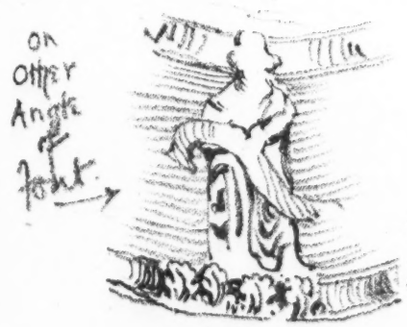
8. Castle St. Holborn. London. E.C

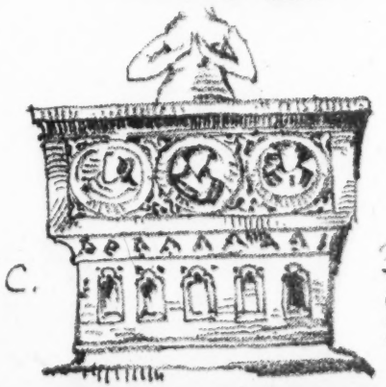
WAREHOUSE, BROAD STREET, BLOOMSBURY.

MR JOSEPH PEACOCK,
ARCHITECT.

Font in Amiens Cathedral.







A. B & C are 3 fonts from Bas-reliefs on Choir Screen walls Amiens.

oct 16 1882

2.7" octagon

Marble Font in the Church of Coucy le Chateau
oct. 16 1882
with Jany. 14. 1884

8 Castle St. Holborn London E.C.

A.B.P.

SKETCHES OF ANCIENT FONTS.

AMERICAN CONSTRUCTIVE DETAILS.

THIS section of the cupola of the St. Louis Post-office forms one of several drawings which we propose to publish from among the numerous illustrations used by Mr. Gale for his paper read at the Civil and Mechanical Engineers' Society, part of which is printed elsewhere. The present one does not illustrate so much what is peculiar to American work as one or two others we shall give in other numbers, except as regards the iron and concrete flooring hung at the base of the roof construction; but it is a good piece of practical ironwork, and may be of value to students. Above this portion is a lofty and weighty lantern, constructed in the same manner with internal trusswork, and an outer (supposed) "architectural" skin. We are bound to say that the external treatment of the lantern (not shown in this drawing), in which iron plate-work is fashioned into the semblance of stone columns and architraves, is about as despicable a sham as ever was perpetrated; but that does not affect the question of construction.

This and other details we shall give are not drawn by Mr. Gale (a point on which he requests us to be explicit), but are from photographic reproductions of American working drawings, very liberally given over to him for the illustration of his subject.

WEST ENTRANCE AND DETAILS, TINTERN ABBEY.

THE elevation and mouldings of this beautiful piece of Geometric Gothic work were measured and drawn on the spot by Mr. J. Strong, as part of his series of drawings sent in competition for the Pugin Scholarship. The Gothic *furore* has now abated, and the time when work of this class was regarded as "the be-all and the end-all" of artistic architecture has passed away; but design so beautiful and refined as this remains "a joy for ever," amid all the changes of architectural fashion. The sections of details show some curious features: the fluting of the bases of the shafts, below the base-mouldings, in particular.

WAREHOUSE ARCHITECTURE.

THE building in Broad-street, Bloomsbury, designed by Mr. J. Peacock, F.R.I.B.A., is a specimen of the solid and massive effect which may be produced by very simple but frank treatment of the main elements of constructive strength in such a building, with scarcely the slightest pretence at ornamental embellishment. The building consists of basement and five floors, all of which are on framed girders carried on cast stanchions, with rolled joists and concrete floors. The yard behind is inclosed and covered with a glass roof. The walls are of brick and Doulting stone. The contractor was Mr. Chappell, and the cost of the whole 10,500*l*.

The stern simplicity of the structure might perhaps have been still more consistently carried out had the triglyphs over the main piers been omitted, or their place taken by some more original and characteristic detail. They seem a little out of place in a warehouse.

SKETCHES OF ANCIENT FONTS.

THE font from Amiens at the left corner of the sketch is a curious example of the occasional eccentricities of French Gothic work. The proper or usual disposition of decoration seems capriciously inverted in it, the body being left square and almost plain, the supports covered with carved ornament. The treatment of the moulding at top and bottom of the cistern (rather than bowl), with its square projection at intervals, is Classic rather than Gothic. The picturesque example from Coucy le Château is of more usual type. The small illustrations of fonts from bas-reliefs at Amiens are of some interest. Two of them show something like Classic ornament under the bowl, and may have been rude representations or recollections of early Romanesque fonts hat had existed in the district.

Fret-saw Arm for Lathe.—In giving, a night ago (page 354, *ante*), a description mechanical improvement under this title, inadvertently omitted the nam of the makers, viz., the Britannia Co . pany, Colchester.

AMERICAN CONSTRUCTION.

UNDER this title a very full and interesting paper was read on Wednesday, the 12th inst., at the ordinary meeting of the Civil and Mechanical Engineers' Society, by Mr. A. J. Gale, who, it may be remembered, was the first holder of the Godwin Bursary, and devoted his opportunity to the study of American practical architecture. A good deal of the substance of the paper has appeared in our pages in a slightly different form; but it was illustrated with a number of diagrams, a few of which we shall be able to reproduce in this and one or two subsequent numbers; and we print here such portions of the paper as refer more especially to the illustrations we are able to find space for:—

As to Fireproof Construction.—Boston and Chicago are both, as might be expected after their experience of disastrous fires, fully awake to the importance of this question. New York is also well to the front. Mr. P. B. Wight, originally an architect, but now devoting himself to the management of a Fireproof Construction Company, gave me some interesting particulars. His motto is:—"No building can be fireproof unless all constructive ironwork is protected." But if ironwork be not used they protect the wood floors,—in fact, they prefer this method. The joists are carefully gauged as to distance apart, varying with the thickness of joists, so as to allow of deafening with brick laid on fillets like ordinary pugging. This is carefully bedded in fine concrete, and the whole covered with a tile, concrete, or boarded floor. Underneath is fitted a ceiling of porous terra-cotta or cement tile. Counter-sunk recesses receive a plate of iron, which is screwed into the joist, thus clipping the terra-cotta or tile to the joist; the adjoining tiles, all laid dry, are thus supported. The joints are then pointed in plasterer's stuff, and the plastering finished in the ordinary way. The additional weights, over and above ordinary construction, are: floors 12 lb. and ceilings 8 lb. per foot. Fifteen to eighteen per cent. is given as the extra cost above ordinary non-fireproof construction, and existing buildings can have this method adapted to them. Furring down on the joists for the ceiling tiles is sometimes used.

The stair aprons and strings are all similarly protected, the wooden treads alone being exposed, and all the decorative finish being in Keene's cement. If rolled iron girders be used to carry the joists, they are protected with porous terra-cotta or cement blocks, which are in two or more courses, one fixed to the bottom and one to the top flange. They are both pressed to the iron in gauged mortar, and iron holdfasts have been found unnecessary, as the blocks break first, when removal is tried. Columns again, if furnished 11 in. or more in diameter, are fireproofed at the same cost as cast-iron columns of the same diameter. Mr. Wight uses a webbed column of cast or wrought iron; to this, fireproof blocks of terra-cotta or cement are attached by slips (such as are described for ceilings) screwed to the core of the column; these are finished with plaster of Paris, lime of teil, or Keene's cement. The above method is the recommended one, but where circular columns already exist the blocks are grooved at the top and bottom edge to receive a metal tongue (as in the case of a tongued floor); the joints being bedded in mortar, the band is protected, and forms a strong joint. These columns, as described, have all their ironwork covered; the covering is solidly fixed, will stand blows of falling materials, &c., and the space occupied is small. The materials described are adaptable for covering the timberwork of sloping roofs with porous terra-cotta, for furrings inside brick or stone walls, in place of the wood furrings almost universally used in America; for hollow partitions, and for attachment to floors having iron girders and segmental arches already existing.

The system of *wire lathing*, not unknown, I believe, in France, is used with advantage in fireproof work, and I have a few illustrations showing the methods in which it has been used. It admits of easy adaptation to wood floors and beams, and from its flexibility is easy of adjustment in difficult places.

The underside of floors of brick arching or iron girders is, by a simple clip arrangement, covered with the wire lathing, and in this and other cases where material subject to damage by fire has to be used, it is covered up and made proof against danger.

The American inventive genius has been busy in devising methods by which a fire which has once broken out can be limited in its area or entirely subdued. Among these are automatic iron doors which close by the fusing of a link in a chain, thereby releasing a self-shutting door. Also an automatic sprinkler, set in motion by a similar process, which plays upon the fire by a fire-hose with constant service.

In *Iron Fronts for Buildings* the advantages derived are less weight during construction and less weight afterwards, far less expense than a stone front, with the same amount of reveal surface, the amount of reveal surface well used being, after all, the chief means of gaining effect, apart from all elaborate detail, which cannot always be afforded. Shadows, moreover, are in America wonderfully sharp and decided, and the air is very clear, and a small expenditure used in gaining broad shadows without carving gives far better effect than much carving and little shadow. If ornament be used, it must be sharp and easily withdrawn from the mould. Iron fronts, again, are far more durable than stone, and much more watertight, so long as due care be exercised in construction. Particularly is attention necessary to the painting of every part, inside and out, seen and unseen; also of all bolt-holes and bolts. Large glass panes should be bedded with rubber tubes; beyond this there is no fear of contraction and expansion. Owing to the air-spaces which abound in such iron fronts, they are more equable in temperature and drier than stone fronts. The paint question, again, is an important one. Stone fronts, and those of brick also, retain dirt very much, and cannot be kept clean.

There were pointed out to me three buildings all adjoining; one iron front, painted when new, still fresh; a stone one which had become dirty, which was then painted, and had again become dirty; a third in brick, which though in its original state, was very dirty and shabby-looking. Carson's anti-corrosive paint is said to be the best for iron buildings, which, after this process, will last twenty years without re-painting, and have lasted fifty years without further trouble. This is, of course, in the clear American atmosphere. As to constructive details, there are two kinds: buildings with a skeleton or framework of iron and a thin skin fitted on, and those with a strong skin and no skeleton. The construction of the latter follows so closely the detail of the front that it may be dismissed without further description; but the former will require some explanation. It seems to be the better construction of the two, as the supporting portions are much more, if not quite, protected from the action of fire. In an example which I examined the fronts only were of iron,—the building consisting of four stories, with brick side, end, and party walls. The sashes were of wood, and all the joints of the ironwork itself, and of that with other materials, were carefully checked or lapped. The cornices were of galvanised iron, a material frequently used for the purpose, and almost a trade in itself. The foundation-wall of the front is brick, carried up in piers to receive the round cast-iron columns which are the vertical members of the skeleton. Across these, at the first-floor level, are rolled-iron riveted girders, and above are columns again. On the floors above the first, channel irons as lintels, laid with the back downwards, are placed, all bolted together. The columns are cased with brickwork, leaving a space between the outside of the brick and the ironwork shell; on the lintels or channel-irons, too, is 12-in. brickwork as high as the window-sills. The columns are continuous in height, and have brackets for the reception of the channel-iron, which in its turn carries the floors, which are anchored to the front. The metal is about three-eighths of an inch thick for the shell, which (surrounding the constructive skeleton) takes any form of detail required.

Iron fronts are said to be 40 per cent. cheaper than unpolished white marble, which may perhaps be regarded as equivalent to Portland stone in this country.

Though not an iron building in what may be called the ordinary sense, that is to say in a street front, the U. S. Barge Office at New York is well worthy of notice. It is a structure intended for landing passengers and examining baggage from ocean steamers, and consists of a stone building of several stories with a one-story iron building attached. The points of support, the nature of the roof plan, and the construction of the enclosing ironwork

of the sides can be seen from the large and small scale details.

The staircases are almost entirely framed in iron, with slate treads and detail of a rather intricate character. The means of affixing the plaster to the iron offers no difficulty, as either corrugated iron lathing or wire cloth can be easily attached to the structural iron supports. The building was in progress at the time of my visit.

At the St. Louis Post Office the central feature on the principal front is a dome, about 70 ft. by 80 ft., a parallelogram in plan, crowned with a cupola. The whole of the upper part is of cast iron upon wrought-iron skeleton framing. The dome itself is covered with slate, and has large wrought-iron ribs and bearing girders to distribute the weight.

The main roof is in deck form, with cement covering and cast-iron cappings to ridges and hips, &c. This roof terminates with a slated slope towards the streets. The methods of uniting the various materials are ingenious. The cement roof is carried on concrete, which rests on arched corrugated iron sheets.

At a large office building in New York called "The Mills Building,"* the roof is flat, carried upon rolled iron beams filled in with flat arching in hollow terra-cotta arch bricks; upon this a surface of asphaltic cement is laid, then four or five layers of roofing felt, each laid and finished in asphalte. Finally, the roof covering of bricks, either flat or, as in this case, edgeways, is laid in Portland cement. The patentee, Mr. T. New, of New York, recommends English or German cement, one part to two of sand. I may add that the bricks are, of course, the hardest and soundest to be procured, and the best judgment that can be obtained upon these roofs is their use in New York in almost all recent buildings of large size which have flat roofs, and they are numerous. The main staircases in this building are entirely of cast-iron, except the treads, which are of slate, in large slabs, about 1¼ in. or 1½ in. thick. Iron takes the place of wood in the construction of newels, strings, risers, balustrades, &c. The slate landings are in two pieces resting (with the underside visible from below) upon the cast-iron bearers, of small deep girder section, which run from riser to wall. The internal partitions of the building are of hollow terra-cotta bricks, which are corrugated to receive the plastering. In the corridors the walls and ceilings are plastered, and the floors tiled; this allows of good washing; and to preserve the handsome hardwood dados (3 ft. high) from decay, they have a strip of marble 4 in. high as a plinth to the skirting. There are also holes at intervals to carry off the water during cleaning.

At the New Public Buildings in Philadelphia the floors are of rolled iron I-beams, and 4-in. hard brick segmental arches, with an extensive use of immense built girders. It has not been attempted, as far as I saw, to make the building generally fireproof, in the sense of protecting all constructional iron-work. The roofs are noteworthy; the trusses are of rolled iron I-beams connected by iron cleets; the rafters or trusses are crossed by ⊥-irons laid back to the rafters and bolted on.

The slates are 18 by 10, all uniformly sawn, ⅜ thick, and bolted to the ⊥-irons with brass screw bolts and nuts of peculiar construction. The flashings and roof dressings are of tinned copper.

The Post-office and Court-house at Philadelphia are interesting as a typical example of Government buildings generally. The fine granite fronts, cut and fitted entire at the quarries, are put together on the building without the use of chisel, so accurate is the fitting. The granite for the lower story is from Dix Island, Maine; that for the upper stories from Richmond, Virginia. The staircase† is an example of its peculiar type, with rolled iron carriages and cast-iron casings, and tile treads. The roof over the sorting-room, which has necessarily a large amount of glass, is constructed of cast-iron frames laid on bearers, and carefully lapped at the joints, and filled with glass bulls'-eyes bedded in putty, and grouted with a mixture of coal-tar and brimstone. The Philadelphia bricks used for the backing of the walls in this building, and also in the New City Buildings before described, have stood a crushing test of 500,000 lb. uninjured for five minutes. They are the usual size of American bricks, 8 in. by 4 in. by 2¼ in. Cast iron is used very largely in the window and door finishings of this building. Other parts also of the construction are interesting, the idea apparently being to give as little material as possible of an inflammable nature, to fall a prey to fire. The method of roofing with slate and copper is interesting, and the large four-sided dome as a central feature. The latter is upon iron framing, and covered with slate and copper.

Before leaving this part of the subject it may be as well to call attention to the varieties of treatment noticeable in the iron staircases. The treads are variously of cast iron roughened, cast iron filled with asphalte, tiles, or slate. Sometimes slate is used, merely screwed upon the ironwork, and not let in.

The roof of an apartment house which I visited is noticeable. It is, in the first place, very steep, and there are two floors in the roof, and an ample gable space above, also floored, the two former having hardly any floor-space covered by lean-to roof. At the three floor levels (that is at the top of the walls and at two points above), the rolled-iron joists of I section cross the span from roof-slope to roof-slope, and on these the floor rests. The roof is straight-sided, and not a mansard. The sides are constructed as follows:—The ends of the rolled iron joists of the floors are clasped by two channel-irons, which form the rafters, and are bolted together, with a thimble between. To these, on either side, is bolted a cleet or corbel, and on this rests, bolted to it, another I iron, which forms a stiffener, or longitudinal brace, but can hardly be called a purlin, as it does not support rafters. The horizontal rafters, as one may call them, are ⊥-iron, bolted flat downwards to the double channel-irons, and between these ⊥-irons blocks of porous terra-cotta are dropped in and bedded in cement. On the outside of this, without further trouble, the slates are nailed, and the flats of the ⊥-irons underneath are plastered up level with the porous terra-cotta, which is rebated, to allow it to come down rather more than flush with the under-side of the ⊥-iron, and affords a key on either side. Thus the iron is carefully embedded in the porous terra-cotta, and preserved from possible contact of flame or excessive heat.

* Plans of which were given in the *Builder* a year ago, viz., March 10, 1883, p. 318.

† For sections of which see *Builder*, March 10, 1883, p. 319.

NEW REGULATIONS IN SWITZERLAND FOR TESTS OF CEMENT.

THE associations which represent the cement manufacturers and the architects of Switzerland have recently agreed to a series of regulations drawn up by Professor Tetmajer for the testing of hydraulic binding substances. That various points in them are of value would be inferred from the prominence which the *Thonindustrie Zeitung* of Berlin gives to these rules on the ground of their being worthy of consideration in such a revision of German regulations as would correspond with the technical progress attained by the cement industry. The passage referring to the time of setting is considered of special interest by the journal in question.

The following are the principal features of the regulations:—

1. *Definition.*—According to the uniform nomenclature, there belong to the category of hydraulic binding substances:—

Hydraulic Lime.—(*a*) As light hydraulic lime; (*b*) As heavy hydraulic lime.
Roman Cement.—(*a*) As quick-setting cement; (*b*) As half-slow setting cement.
Portland Cement.—(*a*) As natural Portland cement; (*b*) As artificial Portland cement.
Hydraulic Fluxes.

2. *Packing and Weight.*—All hydraulic binding substances are to be in the form of powder, packed in sacks or casks, and are to be sold at a price per 100 kilos (220·46 lb.). The gross weight of a sack is to be 50 kilos (110·23 lb.), and that of a cask 200 kilos (440·92 lb.). For hydraulic lime and Roman cement the question of a definite weight for casks is at present left undecided. Sacks with cement are to be sealed with lead, and the seal is to bear the designation.

Remarks.—The proposed normal weights answer best as regards present usages, as 200 sacks = 50 casks = 10,000 kilos (nearly 10 tons), the latter forming a truck-load. All different forms of packing are understood to be given up after the 1st of January, 1884.

3. *Time of Setting.*—According to their uses, cements may be required to be quick or slow setting. Quick-setting cements are those in which hardening commences within ten minutes. If it commences after thirty minutes, the cement is slow-setting. If between the two, it is half-slow setting.

Remarks.—For defining the commencement of hardening and the time of setting of a hydraulic binding substance, a sufficient quantity of it without the addition of sand is stirred into a stiff paste, and a metal box (1·57 in. high, and 3·14 in. diameter), placed on a glass slab, is filled with it. The moment when a normal needle of ·0015 square inch section, loaded with a weight of 0·66 lb., can no longer entirely penetrate the hardening substance, marks the commencement of hardening. Within the time from the filling of the box to the commencement of the hardening every cement is to be worked. The interval until the cake is so far stiffened that the normal needle no longer leaves any perceptible impression, is called the time of setting. For most technical purposes slow-setting cement is preferable on account of its easier and more certain working, as well as the higher grade of strength attained.

4. *Constancy of Volume.*—Hydraulic binding substances must in hardening, in the air as well as under water, not vary in their volume.

5. *Fineness of Grinding.*—All hydraulic mortar substances are to be ground as fine as possible, and must not leave behind more than 20 per cent. of coarse portions on a sieve with 900 meshes per square centimètre (0·155 square inch), the thickness of the wire being ·0039 of an inch.

6. *Testing of Hydraulic Binding Substances.*—The binding power of hydraulic binding substances is to be ascertained by testing the strength by means of mixtures with sand. One part by weight to three of sand is to be considered a normal proportion for mixing. Normal sand is pure washed quartz sand, sifted in a sieve of 64 meshes per 0·155 square inch, for the removal of the coarsest portions; the finer portions being then removed by means of a sieve with 144 meshes per 0·155 square inch. The residue on the sieve is normal sand. In the preparation of the mortar the addition of water is in proportion to the weight of the dry substance. If a manufacturer does not recommend any other proportion for his product the addition of water is understood to be as follows:—

	Extension test. Per cent.	Pressure test. Per cent.
For normal Portland cement mortar ...	10	8
,, Roman ,, ,, ...	—	—
For quick-setting material	13	12
For slow-setting material	11	9
For hydraulic lime mortar	12	10

The percentage quoted indicates the proportion of the weight of the dry substance. As the duration of the working of the damped mortar has an influence upon the results of the trials for strength, the duration of working for quick-setting cements is fixed at one minute, and for slow and half-slow kinds at five minutes. All the specimens must be kept for the first twenty-four hours in the air, but in a position sheltered from draught and from the direct influence of the sun's rays; for the remainder of the time until immediately before the test they are to be kept under water.

7. *The Test of Extension.*—For ordinary samples of quality the twenty-eight days' test for normal water-hardening is decisive. In this the following minimum strengths of extension are fixed:—

Hydraulic lime	113·78 lb.	per	square inch.
Roman cement	142·23	,,	,,
Portland cement	213·34	,,	,,

8. *The Test of Pressure and the Classification of Hydraulic Binding Substances.*—The test of pressure after twenty-eight days' normal water-hardening is a definite and reliable standard, and the following classification of hydraulic binding substances is based on it:—

	Minimum resistance to pressure.		
Portland cement	133·40 lb.	per	square inch.
Roman cement	1137·80	,,	,,
Hydraulic lime	711·15	,,	,,

The above are the leading features of the code of regulations in question. Various details are also given bearing on the exact manner recommended for carrying out the various tests to which reference has been made.

TAUNTON CASTLE.

A CONSPICUOUS feature of this ancient castle, which was a fortress as early as the seventh century, has just been reinstated at the cost of Colonel Pinney, of Somerton Erleigh. The turret attached to the south entrance gateway, next the inner courtyard, has been rebuilt. The original turret was probably erected about the time of Bishop Langton, whose arms, together with the date 1490, are over the south gateway, part of which he is known to have built. The blue lias used was of a very perishable kind, and was crumbling to pieces. The foundations were bad, and the bond very indifferent; the Ham Hill stone had decayed in many places, so that the turret was in a dangerous state. Some portion of the newel steps have been left *in situ*, and nearly all has been re-used, as well as some parts of the freestone work.

Evidences of the lost base-moulding and plinth were found, which have now been restored. The upper portion of the turret had been truncated, and was covered with a plain lead flat, without any string or parapet.

A battlemented parapet, partly of Ham Hill and partly of Pilsbury blue lias, has been added, so that the turret now has some of its former elevation, and can be well seen from the large open space to the south.

The work has been carried out by Mr. Henry Davis, of Taunton, under the direction of Mr. B. Edmund Ferrey, F.S.A., the architect to the Somersetshire Archæological Society, to which the castle now belongs.

THE PARIS ROOF-COVERERS.

THE Commission of the Forty-four still continues holding its inquiry into the causes, &c., of the depression of the French industries, and the amount of evidence collected is now assuming formidable proportions. Not only are workmen examined, but their employers also are cross-questioned; and, as in France, the employers were first to form trade unions, they can give evidence in a collective as well as in an individual sense. Thus the corporation of master-plumbers and zinc or lead roof-coverers consists of 720 employers for Paris and the Department of the Seine. Many of these firms do not employ more than one or two journeymen, and it is only the more important houses, 110 in number, who found it advantageous to create a Syndical Chamber, or masters' trade union. We might, in parenthesis, explain that it was the constitution of masters' unions in a great variety of trades that rendered the creation of workmen's unions possible. These latter were, and are still, illegal, but the Government could not logically interfere with the workmen while combinations among the masters were tolerated. Thus, the workmen's unions grew up side by side with the masters' unions, and now the Legislature is seeking to legalise both. According to the evidence given by the members of the employers' union, there are about 7,500 workmen engaged for zinc-roofing, &c. Of these the greater half are journeymen, as those who work in factories do not require assistants. From the 15th of February to the 31st of October the day's work is of nine hours' duration; while in winter, from the 1st of November to the 14th of February, it is not usual to work more than eight hours. Those who work on the roofs of houses are of course obliged to remain idle when the weather is exceptionally unfavourable, and it is calculated that, on an average, thirty days are lost in the year. The wages amount to 6s. per day for the journeymen and 4s. for their assistants, the same sum being paid both in summer and winter. When there is no work, or slack work, the wages are not reduced, but the employers are more severe in the selection of the men, and those who display but inferior skill are likely to lose their berths. In 1852 the wages given to the tilers was equal to 4s. 7d. per day, the plumbers 3s. 2d., and the assistants 3s. In 1862 these wages were raised to 4s. 10d., 4s. 5d., and 3s. 7d. respectively. After another decade, in 1872, the wages had reached the figures of 5s., 4s. 10d., and 3s. 10d. Finally, in 1882-83, the wages were 6s., 5s. 5d., and 4s., respectively.

The employers, after submitting the above figures, urged that though there evidently was some depression, this had been greatly exaggerated. According to the register kept by the Syndical Chamber of the sums deducted from wages to form a benefit fund, the falling off in 1883 was only equal to 8 per cent. when compared to the results attained in 1881, which was a very prosperous year in this trade. Nevertheless, it is estimated that the cessation of great public works will cause a reduction in the amount of wages paid during the present year variously estimated at from 15 to 20 per cent. This unfortunate state of affairs the witnesses attributed to the recent exaggerated speculations in building, which have absorbed in two years the work that might have been spread over five years. The financial societies are blamed for having at first encouraged this building fever, and then suddenly reversed their policy, and refused to advance funds. Finally, the Municipal Council is accused of paying the workmen it employs unreasonably high wages. This has led to the importation of manufactured articles from abroad which were formerly made in Paris, so that the workmen, instead of getting high wages, have in many instances found themselves without any wages whatever. The workmen in the plumbing and zinc roofing trades have never cared to create a sick benefit club of their own. The funds that exist for this purpose were organised some fifteen years ago by the employers, the amounts reserved being in proportion to the wages earned, and the benefits paid amounted to 754*l.* in 1881, and to scarcely 300*l.* in 1883. Some of the firms allow their workmen to participate in the net profits, but this is very exceptional. Such, according to the masters, is the position of this branch of the French building trade, and we shall soon have before us every phase of an industry which has nowhere been more actively pursued than in France.

EDINBURGH ARCHITECTURAL ASSOCIATION.

THE usual fortnightly meeting of the above Association was held in the Professional Hall on the 12th inst., the president, Mr. David MacGibbon, in the chair.

After some preliminary business had been disposed of, and after several gentlemen had been balloted for and admitted to the membership of the Association, the President called upon Mr. W. W. Macfarlane, who then read a paper entitled "Some Notes, Thoughts, and Sketches on the Decorative Arts,—a '*Pot-pourri*,'" in which he endeavoured to show that good decorative work was not necessarily the outcome of lavish expenditure. Hints were given as to some simple and artistic modes of treating the interiors of town houses. The decorations and furnishings of an ideal bedroom were sketched, and other topics of importance in decorative matter discussed. Mr. Macfarlane thought that a practical demonstration on the use of colours, &c., would be of much more value than easy reading, and expressed his willingness to give this at some future time, provided a subject could be procured, and the necessary daylight.

The paper was illustrated by numerous sketches.

LIVERPOOL ENGINEERING SOCIETY.

THE fifth meeting of the session was held on Wednesday evening, March 12th, at the Royal Institution, Colquitt-street. The president, Mr. R. R. Bevis, jun., in the chair, when a paper entitled "Compressed Air in connexion with Sewerage Works" was read by Mr. T. Longdin.

The author commenced his paper by pointing out that owing to the rapid increase of population in this country, it has become the duty of all authorities having the carrying out of the Public Health Acts to provide good and sufficient sewers to carry away the liquid residuals from their districts. In designing schemes of drainage many difficulties met the engineer to prevent his obtaining those gradients which are absolutely necessary to permit rapidity of movement of the sewage, but this can be overcome by the application of "Shone's Ejectors" which have for their motive power compressed air, which can be conveyed in iron mains to any part of the town or district, where ejectors receiving the sewage would be placed, working automatically, and accommodating themselves to the flow of the sewage. By this means difficulties caused by the physical outline of any town or district may be overcome, and gradients got which will permit of those velocities being obtained which are requisite to keep the sewers free from deposit.

MACCLESFIELD HOUSE.

MACCLESFIELD HOUSE, Gerrard-street, Soho, the residence of Gerard, Earl of Macclesfield, from 1680 to 1694, was put up for sale by auction, at the Mart, on the 6th inst. The house is an interesting specimen of the architecture of the age of Queen Anne, and has a handsome staircase, and a fine ceiling on the first floor. It has undergone various vicissitudes, and has been of late years used for business purposes. The notorious Lord Mohun, who killed Mountford, the actor, in a duel resulting from an attempt on the part of the nobleman to carry off Mrs. Bracegirdle, the actress, and who was himself killed in a duel by the Duke of Hamilton, expired in this house. It was also for some time occupied by Lord Lyttelton. The premises occupy an area of 3,480 square feet, and have a frontage of about 52 ft. on Gerrard-street.

In the auctioneer's advertisement the premises are described as presenting an admirable site for the erection of a first-class modern structure, and as much space is at present occupied by heavy chimney-breasts and thick walls, it is not improbable that the house may be rebuilt, and an interesting relic of London in the time of Queen Anne will disappear.

WESTMINSTER TRAINING SCHOOL AND HOME FOR NURSES.

THE Westminster Training School and Home for Nurses, which was opened on Wednesday by the Prince and Princess of Wales, was founded by Lady Augusta Stanley in 1874, and has occupied No. 8, Broad Sanctuary for some years, but as the public began to appreciate the benefits derived from the private nurses provided by the institution, and from their being so ably trained at Westminster Hospital, it was felt that a larger building was required, and after the death of Lady Augusta Stanley it was proposed that it would be a fitting memorial to her to erect a new building suitable for the requirements of the school and home, and after considerable time the present freehold site in Queen Anne's Gate, Westminster, was obtained, and the new building has been erected at a cost of 7,800*l.* (about).

The home is replete with every comfort for the nurses, and contains in the basement the usual kitchen offices, with ample store-rooms, box-room, and other conveniences; on the ground-floor a hall and staircase, with a stained-glass window, with portraits in it of Lady Augusta Stanley and the late Dean of Westminster, and the hall is laid with encaustic tiles; on the left of the doorway is the matron's room, overlooking the street, with telephonic communication with Westminster Hospital, and to the right the nurses' day-room (24 ft. by 16 ft.), also overlooking the street; the fireplace has a marble and carved oak mantelpiece, with the badge of the institution carved over it. On the side of the staircase is a waiting-room, and there is a good lavatory and cloak-room, with every convenience provided at the side of the passage for the nurses. The refectory for the nurses is at the back, and is 30 ft. by 16 ft., and adjacent to it is a serving-room, with lift from the kitchen, and also a serving staircase; in the passage also is a lift for coals and luggage, which goes from the basement and delivers at every floor to the top of the building. On the first floor is the matron's bedroom, which has a speaking-tube and bell from the front door for night applications for nurses. There are also on this floor a good linen-room and eight bedrooms for nurses, with bath-room and other accommodation. On the second-floor are ten bedrooms for nurses, with bath-room and other accommodation as below, and on the third-floor nine bedrooms, housemaid's closet, sinks, and other conveniences. At the back is a small detached building, for the reception of nurses who may return from infectious cases, with bath-room and other conveniences; there are also a disinfecting room and apparatus in the back yard.

The rooms are ventilated by Tobin's tubes and ceiling ventilators. The sanitary arrangements are of the best kind, the drinking-water being entirely separated from all other water. The drains are most carefully constructed on the most scientific principles with air inlet, ventilation, and automatic flushing tank.

The style adopted is "Queen Anne," in character with the houses in the neighbourhood, and the internal finishings are all carried out in

the same style. The woodwork is stained and varnished, and an air of old-fashioned comfort pervades the whole building. The builders have been Messrs. Adamson & Sons, and the architect is Mr. Stephen Salter, F.R.I.B.A.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

SIR,—The gentlemen who are clamouring for a rival to the Institute do not show the sagacity of their countrymen,—a sagacity which has kept England free from many of the troubles that have afflicted other nations.

The Institute has now been in existence nearly fifty years, and, till comparatively lately, has had but a struggling existence. It is more or less known to the public and to foreign architects; it is beginning to exercise a beneficial influence on public opinion; to be consulted by the Government when it wants to know the opinions of the profession; and it is generally admitted to have raised the position of architects. Is the profession so powerful and independent that it needs no aid? Are its members so wealthy and so highly esteemed that they can always dispense with corporate assistance? My conclusions lie in the opposite direction. It seems to me that all who now stand aloof should enrol themselves in the ranks of the Institute, and thus form a powerful and organised body to act in case of need, and to prevent isolated resistance from being overcome, rather than lessen the little corporate power we have by schism.

If there are grievances they can be clearly stated and temperately argued, and I should think, if found to be real, must certainly be redressed; for every member who fulfils any duty does it purely for the benefit of his profession: he gets neither pleasure nor profit. Want of space, want of time, and want of funds check many improvements that are needed. Could a lowering of the subscription be afforded, it would doubtless greatly increase the number of the members.

We have no Parliamentary representative, so every possible architectural work is given by the Government to a military engineer or to the Board of Works. It would be interesting if we could know what the percentage on the outlay is at the Board of Works; if the real cost of design and supervision could be known; if we knew the present value of the land on which the offices are built; what the rent and taxes would come to, and what the expenses, salaries, and the like really are. I am told that in India these amount to 200 per cent. in the Public Works Department, *i.e.*, that when all works are stopped only one rupee is saved out of three; yet when independent architects are employed by Government, the ordinary starvation pay of 5 per cent. is refused. Were the architects a powerful body these abuses would be stopped.

GEORGE AITCHISON.

150, *Harley-street*, W., March 19, 1884.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS, AND ITS CHARTER.

SIR,—The first step for the formation of the Royal Institute of British Architects was taken by the holding of a meeting at the Thatched House Tavern, on July 2nd, 1834, when twelve architects were present. Now, nearly fifty years after, that body numbers over 1,280 members of all kinds: thus it has increased numerically, and, it might be said, even to the same degree in power and influence. Yet, notwithstanding, many noted architects still hold aloof, as they and others have done in its previous history. In your number for Feb. 9 last, you referred to this in your "Notes," whilst mentioning the fact of the nomination of Mr. Butterfield, an outsider, to be the recipient of the Royal Gold Medal for this, the Jubilee Year. You referred to the "liberal-minded and dignified spirit" of the Institute, shown by this action, and rightly called on the outsiders "to reconsider their ways and join hands." Another important instance of this liberal-minded spirit was shown by the institution of the Pugin Travelling Studentship, for Pugin himself, unless I am mistaken, never joined the Institute. Besides, many other instances can be cited where liberality has been shown, and where great efforts have been made by the same body for the good of architecture and those connected with it. It has moved in the questions of preserving ancient monuments, of improving building legislation, and of improving the streets and places of London; it has examined candidates and granted certificates under the Metropolitan Building Act, and has now fairly started an Architectural Examination without passing which no one is now permitted to become an Associate of the Institute, thus raising the dignity of the profession.

Inside the house the same improving tendency may be seen; the ordinary meetings for the reading of papers may no longer be disturbed and cut short by the starting of discussions on new patents, or even on professional business, or for the election of members, special meetings being now reserved for such business. Proceedings of the meetings are pretty fairly reported and sent round to all members after a few days; journals of the meetings and of the Council and committee meetings are also minuted, printed, and issued at intervals, besides the annual reports of the Council. Many of these were not even thought of a few years ago. The opinion of the Associates has been taken so far that it is now usual to place one or two of these on all or most of the business committees. The papers read are printed and illustrated in detail with the discussions, and issued twice a year to members if desired, the only apparent fault to be found with this being that too much is given at one time for some to digest, and they would prefer to have printed copies of each paper with the discussion in time to read on the evening of the meeting at their own firesides, instead of having to go to Conduit-street; many even are ready to wait; they know the papers will ultimately come to them.

Still, much yet remains to be done. The Council on laying "the Charter of Incorporation" before the members on Feb. 6th, 1837, stated in their address "the Charter is not the ultimate point of our hopes. It is but the first step in an enlarged sphere of action." Also in taking action on a resolution, calling for some improvements, passed at the annual general meeting, May 7th, 1849, the Council said in their report thereon, "they considered the resolution of the general meeting as most expedient and likely to lead to very useful results; for in the existence of all societies of a practical nature it is most expedient periodically to look back upon the past,—to consider what may have been effected, to what extent the original purpose of the institution may have been realised, and in what points it may have fallen short." If this were so then, is it not much more so now? In this the jubilee year, required improvements and alterations should be made, and fetters should be broken, or, if necessary, should be lightened.

The Charter is now forty-seven years old, and is a most honourable token of the standing of the Institute. It contains many excellent provisions, but, viewed according to the requirements of the present day, it omits some clauses which should not be omitted, and has some which should be. Were it not for the Charter I believe the alterations required would have been carried into effect before this, but as it stands this may not be done. A remedy is possible: let the Institute decide on the alterations required in this and the by-laws, memorialise Her Majesty for the alterations in the former, have both legally carried into effect, and pay the necessary sum required therefor. This may be somewhat considerable, but the money spent may be recouped in various ways.

Some may not know how the Charter fails in these points; it is therefore necessary to show a few of its faults. When the Architects' Benevolent Society was instituted, the Council found that it could not be taken in hand by them, as the Charter did not provide for it; it has therefore been always separated from the Institute itself, and without doubt has suffered thereby, for the Council could only help it indirectly. The questions of the Architectural Examination and diploma were also without doubt delayed owing to this; the Charter does not provide for them. Certain disabilities were attached to the class of Associates, so that that class have never had the power of voting at the general meetings, and are thus placed at a disadvantage when compared with the same classes in the Institution of Civil Engineers, the Surveyors' Institution, and the Society of Chartered Accountants. It would be interesting to know whether Associates, when members of committees, have voted, and if so, whether their votes were legal.

Moreover, it appears doubtful whether by the Charter it is legal for the Institute to have a class of *honorary associates*, and for there to be *associates* who have been in practice *more than seven years*. It would further appear that by it *any three* members of Council could, at a subsequent meeting, upset a previous decision of the whole Council, and that by it the Fellows could decide on selling the whole property of the Institute without any hindrance from the other members. These things should not be, the by-laws have been altered, and, if the alteration has been found unadvisable, have been altered back again; a royal charter must from its nature be more steadfast, but it should not be as "the law of the Medes and Persians, which altereth not."

One other fault of the Charter: the Royal Institute of Architects in Dublin formerly wished to be connected with the Royal Institute of British Architects; the Council of the latter body consulted the Charter and found they had no power.

In conclusion, my motto is "Improvement with the Times, but not Revolution,"—I would even have said reform. Let the council look to these matters; let the outsiders come in, and let the Royal Institute of British Architects be not only the guiding body of the Profession throughout Britain, but even throughout the world.

HUGH MCLACHLAN.

SMOKE ABATEMENT.

SIR,—Many of your readers may be glad to know whether the smoke abatement movement is advancing satisfactorily. We had a year or two ago a smoke-abatement exhibition; meetings were held at the Mansion House and South Kensington, some hundreds of fireplaces were *tested*, as it was termed, and the whole terminated in a distribution of medals and the publication of a volume of reports. I pointed out in your pages as soon as the reports appeared, that they could not be relied upon, because they were vitiated by two blunders, which it was too late to retrieve. One blunder was testing all grates, stoves, and even, I believe, all kitchen fireplaces, with flues contracted to 6 in. in diameter, or, to use the technical term, "throttled." The second blunder was testing them for a few hours only, instead of relying upon the careful observation of months with proper chimneys. Can we wonder if the reports give remarkable inconsistencies, are bewildering to experienced men, and not to be relied upon by any, be they experienced or inexperienced? The only explanation or defence which has been offered will not bear investigation.

However, to leave this alone, are the essential principles of smoke abatement so extremely simple that they can be very readily understood? They certainly are. I leave alone all speculative matter, whether as regards the general use of anthracite, the economical and innoxious use of gas or gaseous fuel, as some call it, and still more ambitious schemes. I wish to confine myself to the simple means of burning our bituminous fuel without smoke. This is the most practical way of dealing with the subject at present, whatever the future may bring about.

It is open to daily observation that we have little or no visible smoke when a good fire is burning, and that there is an instant ascent of smoke whenever fresh fuel is supplied at the top. Now the principles of burning the fire without smoke are essentially only two. The first is that of supplying fresh fuel on the top so gradually, and in such small quantities, that the carbon of smoke is at once arrested and burned. This either involves a great deal of personal attention, which none would give, or the use of a hopper and assisting machinery, which would allow fine coal to descend on the fire at frequent intervals.

The second principle is, never to throw coal on the top of the fire, but either to burn a body of coal to last the day from the top downwards, or to introduce coal in small quantities below the fire. By both systems the carbon of smoke is arrested and burned in its passage through a superincumbent layer of burning fuel. A mode of accomplishing the same object is by the use of reversible grates, as they are called; a fire-cage or basket being charged with fuel at the top, and turned over so that the fresh fuel shall be below the burning fuel. Now it is desirable

the public should become very familiar with these four systems, founded on the two leading principles I have mentioned, viz.:—

1. Supplying a fire very gradually with small coal.
2. Burning a body of fuel to last the day from the top downwards.
3. Systems of underfeeding by shovels or otherwise.
4. Reversible grates.

It will now be seen how thoroughly simple the whole question is when divested of extraneous matter. The public want no medals or elaborate reports to guide them, but simply the exercise of sound discernment and common sense. My own opinion is that the first system is complicated and costly; that the third system is too troublesome for general use, as the coal must not only be broken small, but the requisite amount of care and force must be used to introduce the fresh fuel; the second and fourth systems appear to be the simplest, and both have been known for about seventy years. The second system has been persistently advocated in your pages for thirty years past, as used in a common fireplace, and, in my opinion, it is the system which is certain to supersede in time our present wasteful and smoky manner of burning coal. Will it be believed that by the misleading reports this system would appear to be smoke-producing instead of smoke-consuming, and yet it can be proved by overwhelming evidence that it only gives occasion for chimney-sweeping once in ten years, and that even then there is but little soot. What are we to trust,—a few hours' testing with throttled chimneys, or the experience of from twenty to thirty years with unthrottled chimneys?

It has been used for that period in a large number of instances, among others by Messrs. Burgoyne, corner of Stratford-place and Oxford-street, throughout two large houses, and by Sir William Gull and his predecessor Dr. Todd. The late Mr. Thomas Burgoyne told me that in fuel alone he had saved the cost of his grates over and over again. The well-known firm of Messrs. Benham & Sons have adopted the principle as offering in their opinion the most simple, practical, and efficient method of burning a smokeless fire. However, the course which should be pursued is a very simple one. We are shortly to have a "Health Exhibition," amply supported by funds. Let the systems I have described be fairly tested with unthrottled chimneys, and the public will begin to learn the benefit of using smokeless, sootless, and economical fires.

FREDERICK EDWARDS.

ADDITIONAL LIABILITY FOR BUILDERS.

SIR,—As it is now the fashion to put as much responsibility as possible upon builders and contractors, I think that any new experience should be made known as widely as can be through the trade publications, and with this object I detail a recent example.

Some three months ago I contracted to build a suite of offices in the City. The specification provided a sum of money to be paid to a particular ironfounder, who was to provide *and fix* the cast and wrought ironwork, and whose account I was to pay on the certificate of the architect. During the progress of the work I considered that the tackle which the ironfounder was using in hoisting and fixing the columns was not sufficiently strong, so much so that I began to think who would be liable in case of accident. I referred to my contract, the conditions of which are those agreed between the Institute of Architects and the Builders' Society, but failed to discover any clause which expressly indemnified me against any liability for accidents resulting from the negligence of sub-contractors appointed or nominated by the architect or by the building owner.

I then submitted the question to my solicitors, and they advised me that as the work was included in my contract, and I was to pay the ironfounder, and the work was being done at the same time as my other work, upon premises which were under my control, I should probably be held liable, under the Employers' Liability Act, for any injury caused by the ironfounders' men either to my own men or to the sub-contractor's men.

Now this appears to me to be such a serious responsibility that I think all contractors should be made aware of the risk which they may incur by allowing workmen belonging to sub-contractors to be on their works without having sufficient indemnity either in their original contract or from the sub-contractors.

The modern habit of introducing provisional sums to be paid to various specified tradesmen, and forming part of the contract-price, is becoming so general that in view of the new liabilities imposed upon contractors by the Employers' Liability Act, great care is necessary before signing the contract in order to ascertain that the liability to which I have referred, and which, I feel sure, neither the architect nor the owner wishes the builder to incur, is not thrown upon the contractor.

I will only add my acknowledgment of the fairness of the ironfounder in question, who gave me a letter of indemnity against the result of any accidents which might occur, for which his men or machinery might be responsible.

EDWARD CONDER.

DERBY ASYLUM COMPETITION.

SIR,—Referring to the letter of Mr. R. Stark Wilkinson in your issue of the 8th inst. [p. 355] I should like to make a few remarks.

The question of modern lunatic asylum planning is one that of late years has made considerable progress, and with which comparatively few members of the profession are practically acquainted.

Those who are acquainted with the work will naturally send in competitive designs, and the difficulty at once arises how to find a competent arbitrator. I maintain that a practical knowledge, not a theoretical one, is necessary. It is a question of plan and arrangement, not one of design and art, and a practical committee who, as visitors of the Asylum, are well acquainted with lunacy requirements, assisted by their medical officers, are likely to select a better plan than an ordinary professional referee.

To cite an instance. In the spring of 1882 a competition was invited for a lunatic asylum at Exeter with the usual double competition (an absolute waste of time and trouble), professional assessor, &c. The result of this appeared in your illustration of September 16th, 1882. Those who understood the subject saw at once that here was a plan which could not be approved by the Lunacy Commissioners unless all the new ideas of the last twenty years were to be ignored. It contained all the faults of the antiquated system, and it was difficult to see upon what ground it had been selected, except on the charitable hypothesis that both arbitrator and designer were about on a par as regards knowledge of the subject.

That this was so is proved by the following extract from the "Commissioners' Annual Report" of 1883:—"Plans for an Asylum for Exeter selected after open competition were submitted to us in the autumn. These plans were found to be unsuitable in many particulars, and have required much revision, so that up to the end of the year it had not been possible to submit them to the Secretary of State."

The arbitrator in the case mentioned was a well-known Professor of Architecture, and the selected architect your correspondent of the 8th.

I venture to think, sir, that I have made out a case not altogether in favour of the system adopted in the Exeter competition, and which your correspondent advocates.

A.R.I.B.A.

CLOISTERS AT RATISBON.

SIR,—The illustration by Mr. Wm. A. Pite, in the *Builder* for March 15th, includes a very curious "chevron" ornament (called in the sketch a dog-tooth). It was used with very good effect in the chancel arch of the partly-destroyed Lady-chapel at the north side of Tewkesbury Abbey Church; it is also found in Selby Abbey Church, and in Normandy, at the Church of St. Contest, near Caen. It is one of those mouldings which are sufficiently rare to be of interest, as showing that there must have been some special connexion or means of communication between the buildings where it is used. The above-named buildings are of the best thirteenth-century type, and, although Mr. Pite puts the Ratisbon work down as of the fourteenth century, I venture to suggest that it is a century earlier, as the mouldings and ornament would indicate. The capitals remind me of work at Dore Abbey which is as early as 1187.

THOS. BLASHILL.

THE LONDON FEVER HOSPITAL.

SIR,—As an active member of the House Committee of the London Fever Hospital, I trust you will allow me to invite the attention of architects, builders, and all interested in hospital construction and management, to this institution.

In the past the hospital has done good service not only in the treatment of vast numbers of patients, but in increasing our knowledge of febrile diseases and the conditions best suited for promoting recovery from them. It has thus served to illustrate many features deserving attention in the construction and arrangement of hospitals for infectious fevers.

The main portions of the present buildings, as may be judged from their age (nearly forty years), are not by any means of the kind best adapted to the purpose, nor, indeed, are they so good, in many respects, as the more modern buildings that have been, and still are being, erected in different parts of the metropolis and its suburbs for the treatment of paupers suffering from infectious diseases. The Committee have lately made an effort to re-arrange the hospital-buildings so as to bring them up to the proper standard of modern hospital construction. A commencement has been made by the erection of a portion of a new block of isolation rooms, which you recently illustrated and described (*Builder*, Dec. 22nd, 1883, p. 820), but further progress is arrested through want of funds. The new rooms have proved of the utmost value,—so much so, indeed, that we wonder how we got on at all without them. They are, I believe, very nearly perfect for their purpose, but the usefulness of these new rooms demonstrates more clearly than ever how necessary it is to complete the entire block and to effect the other much-needed improvements.

Under these circumstances, and partly with the object of making the hospital an example of what such an institution ought to be, I am induced to appeal to my brother architects all over the country, to builders and all concerned in building operations, as well as to those interested in hospital construction, to assist us to complete the gradual reconstruction of the hospital. We want to provide for the most complete isolation of five or six diseases, to arrange for the subdivision of the patients into smaller groups than at present, to provide wards of improved arrangement as regards warming and ventilation, to provide improved administrative offices adapted to the modern requirements of the institution, and to afford better accommodation for the nursing and domestic staff.

The lack of money for building purposes stands in the way of our carrying out these further improvements, and it is with the object of increasing our fund for this purpose that I now write. I shall be pleased to explain our objects more in detail to any one specially interested in the undertaking, and will only add that any sums that may be forwarded in response to this appeal will be gratefully acknowledged.

P. GORDON SMITH.

Whitehall, S.W.

BELGIAN GRANITE.

SIR,—Being proprietors of Belgian granite quarries, we have much pleasure in giving your correspondents information with regard to this material.

It is not an artificial stone, but is quarried in Belgium and extensively used there, being well known all over Europe as one of the hardest and most durable of building stones.

We may mention that the Church of Wellin, Belgium, built of this stone during the thirteenth century, still shows the tool marks on it as if only just made. It is also used at the new Palais de Justice at Brussels, and the large and extensive new docks at Antwerp.

It has been introduced into this country for the first time at Bristol, in the erection of the Capital and Counties Bank, by the architect, Mr. Frederick Mew, of Doughty-street, Mecklenburg-square. This building has two frontages, in which the granite is used both fine-axed and polished.

AD. TAGNON & TAGNON BROS.

A CORRECTION.

SIR,—May I correct a little error in your last number? Two of the paintings which I have executed for the Marquis of Bute are recorded under "Stained Glass." They are panel pictures.

N. H. J. WESTLAKE.

THE LATE MR. R. S. POPE.

SIR,—On the 10th of February, died at Bristol, within one month of his ninety-third birthday, Richard Shackleton Pope, for many years City Surveyor of that city. Early in life he was employed as surveyor to measure up the work done in erecting the Royal Mint, Tower-hill, at about his fifteenth year, his father being then clerk of the works to that building under the late Sir Robert Smirke. Mr. Pope was also connected with Sir R. Smirke's office when the late Mr. Vulliamy was there, and also with the late Professor Cockerell, and his father, the elder Mr. Cockerell. He was fond of telling tales of the old Mr. Holland, who owned the borough of Oakhampton, in Devon, for whom Mr. Pope's father was engaged in the erection of the Marble Gallery at Woburn Abbey, Beds. Mr. R. S. Pope afterwards came to Bristol to superintend the erection of the Philosophical Institution, for Mr. Robert Cockerell, having about the same time been offered by Mr. Cockerell the post of clerk of works to his church in Regent-street, London. After completion of the Philosophical Institution in Bristol, Mr. Pope became City Architect and City Surveyor, and most of the public buildings in Bristol were during that time erected by him. The Bridewell Police Stations, Guildhall, Cattle Markets, some of the other markets, St. Mary's R.C. Church, the Royal Western Hotel and Horse Bazaar in College-place, Stuckey's Bank, Jones's shop in Wine-street, Acraman's tea-warehouses on the Quay, ironworks for the same firm in St. Philip's Marsh, ditto at their Anchor Works; also buildings and docks at Clift House; in all two hundred buildings of a good size in and about Bristol, besides a large proportion of the surveying buildings in Gloucestershire, Somersetshire, and Devonshire, around Bristol, were erected under his superintendence. He also erected the warehouses at Bridgwater and Chard for the Canal Company, Mr. Ward's mansion at Olveston, Mrs. Miles's picture-gallery, and many other buildings, and I believe never had a failure in his buildings, being to a very great extent his own clerk of the works; for this simple reason, he knew more than any clerk he could employ. Mr. Nelson and the founders of the Institute pressed him much to join, but he considered his time too valuable, continual arbitrations and business paid him better. His memory up to his death was astonishing, and his tales of older generations of architects would have filled up many of the pages of your paper; viz., the old architect who received his commission upon all the barrack-buildings during the war and only signed the accounts; the old clerk of works to Carlton House and the favourite of the Prince Regent, the old King George III. As a young man he joined the Surveyors' Club, and kept account of the port wine which they imported themselves, and to a few days from his death he never failed to take that much-abused wine.

J. S. POPE.

CREMATION.

SIR,—In the *Builder* for Feb. 16th [p. 253, *ante*] you announce that "Dr. Cameron has secured the 30th of April for the second reading of his Bill regulating cremations."

It is to be hoped that clauses will be inserted in the Bill enforcing coroners' inquests and *post-mortem* examinations of all subjects about to be cremated. It has always been a popular idea (whether right or wrong, I do not know) that our bodies, after death, become the property of the Home Secretary for the time being, who can have them exhumed, or examined, or subject to such processes as he may think fit. What becomes of his "vested interests" after cremation? I care not what becomes of my body after death,—it may be served as Charles II. served those of Cromwell and Bradshaw, or "cremated," if my heirs think proper, only I ask to be allowed to depart in peace first. I should say, if they could be consulted, the late Dr. Palmer, of Rugeley, and Dr. Lamson, would prove advocates of cremation, but if we had received their "prescriptions," and then been cremated, those gentlemen might have been giving the world their opinions on the subject now.

W. F. POTTER.

PIPES *v.* FAÇADES.

SIR,—The letter from Messrs. Banner Bros. & Co. on p. 390 may mislead. I do not claim to be the inventor now of "disease-germ filters," for the outlet ventilating pipes of drains, sewers, &c., for many such, with charcoal, are illustrated in Mr. Baldwin-Latham's "Sanitary Engineering" (1878). On pp. 404 and 405 of this work are illustrated what I suppose Messrs. Banner Bros. & Co. "adopted" or *invented*, but philanthropically refrained from patenting, in 1883.

As Messrs. Banner Bros. & Co. say they only "thought" lately of using asbestos or cotton, neither the Commissioners of Patents nor I have anything to do with prior "thoughts," but only with prior publication or use of plans or appliances.

Filtering of the fresh air entering rooms, &c., has nothing to do with what is above referred to.

W. P. BUCHAN.

THE VICTOR EMANUEL MONUMENT COMPETITION.

SIR,—Foreign competitors may well be dissatisfied with particulars of the Victor Emanuel Monument Competition. Your correspondent last week [p. 390] complains of one broken rule, but I see much worse things than that. The three designs you have published equally and utterly ignore the imminent exigencies of the site. No one would suppose from these views that there were roads passing up on each side bounding and dominating the situation. The perspective views are simply impostures pretending to display the buildings, &c., as they might and would be seen, they being really from impossible points of view. If these designs were depicted from real points of sight, they would be so utterly altered that their own authors would not recognise them. It is said these designs are being modelled, but that will not better the matter, since people are not limited in viewing such things as to position.

The wholesale distribution of medals to native designs was an insult to foreign competitors, whose claims were sacrificed to feed the national vanity.

PHILIP E. MASEY.

MECHANICAL AIDS TO SCULPTURE.

SIR,—I regret to find that in my letter (p. 320, *ante*), with reference to Mr. Simonds's pointing-machine, I have referred to the catalogue of the Exhibition of 1851, whereas it should have been that of 1862.

I have read with pleasure Mr. Simonds's letter (p. 355), and am glad to learn that he does not claim the principle of his machine as new, but rather its adaptation to a new purpose, as his previous letter had led me to a different conclusion.

It was by no means my intention to suggest that any machine could confer artistic excellence upon a copy, but simply to draw attention to the apparatus previously invented by Mr. Shaw.

In conclusion, I beg to thank Mr. Simonds for his courteous invitation to inspect his machine, which it will give me much pleasure to avail myself of.

HENRY D. CROZIER.

P S.—The following errata occur in my letter (p. 320), "Lishamtle-street" should be "Fishamble-street." In line 8 of the 2nd col. "point" should be "joint."

A WOULD-BE ACADEMY STUDENT'S DIFFICULTIES.

SIR,—I write to ask the advice of your readers on the subject of Probationary Drawings for admission to the Royal Academy Schools. Where can I obtain plan, elevation, and section of an existing building sufficiently good to copy? I have asked for such things at every print-seller's I know, wallowed in countless booksellers' shops, worried my friends nearly as much as myself, but am still without that plan, elevation, and section of an existing building. It is true there are many books which are illustrated with accurate and exquisite engravings of noble buildings, but they are in price far beyond my resources. In despair, I made duplicates of some drawings I had prepared in the office where my daily lot is cast, sent them to Burlington House, and in due time had the honour to learn that they were rejected. I went to recover them, and had an interview with the Instructor, who informed me that the *architectural sculpture* and the *perspective* (the other specimens of the applicant's ability) would "do," but that the drawings of the *existing building* were executed in a manner not in accordance with the taste of the Council, and that the design was, artistically considered, hopelessly horrible. In answer to his first objection, I pointed out that all the printed rules were scrupulously complied with; and with regard to the second, though concurring in his depreciation of the design,—all articled pupils disown their masters' works,—I ventured to think that an inferior building could be as well delineated as a good one, asking him to bear in mind that the rules precluded applicants from being responsible for anything but the draughtsmanship. Well, I was snubbed, and retired with my unwelcome burden, which I savagely destroyed. After more research, I discovered a publication issued some fifty years ago, — the cheapest, I think, in Mr. Batsford's collection,— from which I copied a plan, elevation, and section of an existing building, which was unfortunately in the Italian style, and finished them in the manner kindly recommended by the Instructor. Again rejected, doubtless owing to their demerit; but after my former experience I cannot help thinking that the fact of their being embodiments of a taste long since decayed contributed to their failure and my great discomfiture.

The question propounded above at first sight appears to present no particular difficulty, but under certain circumstances it does. One must be the *possessor* of drawings which to copy will occupy his leisure time for weeks, and those that are small, or not engraved in a clear and accurate way, are valueless. What is wanted, I am convinced, are designs by some eminent hand, of a building in the "modern" style, and the difficulty to one who has not the *entrée* of an office ruled by one of those eminent hands is *where to get them.*

IMPROBATUS.

CHURCH BUILDING NEWS.

Monkswood.—The Bishop of Llandaff opened Monkswood Church, Monmouthshire, on the 11th inst. It is built with hammer-dressed local stone, relieved by Westwood ground dressings, and the roofs are covered with silver-grey slates. The style is that of the early part of the fourteenth century, accommodation for 136 worshippers being provided, at a cost of about 1,000*l*. The fabric consists of a nave, with double bell-turret at the west end and an open-timbered porch on the south side; a chancel, screened off from the nave by a dwarf wall, and having a lofty arch, with sub-arch, supported on red Mansfield responds; and vestry, leading from the chancel, on the north side. The chancel roof is boarded in an arched form, and the nave is open to the ridge, plastered between the rafters, and having arched principals supported on carved stone corbels. The cathedral rolled glazing was supplied by Mr. Ben. Gay, of Bristol. The wrought-iron altar standards, door hinges, and candle corona in the chancel came from Brawn's Birmingham Art Metal Works; and the duplex oil coronæ in the nave from Barratt, of Birmingham; the hot-air heating apparatus being by Porritt, of Bolton. The old font has been cleaned, raised, and re-fixed, and a recessed credence provided in the north wall of the chancel. The carving, by Mr. J. T. Davies, of Brynmawr, is principally in imitation of natural flowers, foliage, and fruit. The porch, nave passages, and chancel are all laid with Webb's Worcester encaustic tiles, glazed ones being introduced in the east end. The architect was Mr. E. H. Lingen-Barker, of Hereford; and the builder Mr. E. Giles, of Little Mill.

St. Ive.—The parish church of St. Ivo, at St. Ive, in Cornwall, has just been restored, from the designs of Mr. R. Medley Fulford, architect, Exeter. It is an ancient edifice, dating from the fourteenth and fifteenth centuries, and built in great part of grey granite. The roofs have been overhauled and made good, and the windows renovated, and the whole edifice re benched with oak seats. The interesting fourteenth-century sedilia has been well cared for by Mr. Harry Hems, of Exeter, who has also made, from the architect's design, a handsome lectern of carved oak. The passages are laid with encaustic tiles, from Messrs. Maw & Co.'s factory at Ironbridge, and Mr. Porritt's system of warming is used. The expenditure has been over 1,000*l*. Mr. Blowey, of Plymouth, was the contractor.

Combs St. Mary (*Suffolk*).—The parish church here is about to be entirely restored under the superintendence of Mr. Herbert J. Green, architect, Norwich. The fabric, as it now exists, is in a dangerous condition. The new rector, the Hon. and Rev. A. C. Baillie-Hamilton, is endeavouring to obtain the necessary funds to carry out the work. The church is one of the most interesting in the county. The windows in the south aisle still retain a large portion of the old fourteenth century stained glass.

Barney St. Mary (*Norfolk*).—The whole fabric of this beautiful little parish church is in a most dilapidated state. The roof over the nave is one of the best examples of woodwork in East Anglia, and the church generally has many features of interest. An effort is now being made to raise funds for the entire restoration, under the superintendence of Mr. Herbert J. Green, architect, Norwich.

Sheffield.—The large Church of St. George, built in the beginning of this century, has had its eastern end beautified, and new altar-rails of polished brass added, under the supervision of Mr. Webster, architect, of that town. A large pulpit (10 ft. 6 in. high), a double prayer-desk, and Litany desk, the whole in carved oak, and of the Perpendicular type, have been added. These are the work of Mr. Harry Hems, of Exeter.

Buckfastleigh.—Tourists in this sunny spot in South Devon will remember the ruins of Buckfast Abbey. The Benedictine Monks have recently re-acquired their old home, and are now restoring it. The Abbot's Tower,—a fifteenth-century structure,—has just been taken in hand. The masonry is being made good, new windows put into the gaunt holes in the sturdy walls, a new roof and parapet placed over the whole, and the interior made seemly with oaken floors and fittings. Mr. Harry Hems, of Exeter, is doing the work, under the immediate direction of Mr. F. A. Walters, A.R.I.B.A., architect, of Great Queen-street, Westminster.

Ashton, Breage (*Cornwall*).—A new mission church, erected by the Rev. E. M. Pridmore, vicar of Breage, to the memory of his wife, at Ashton, has been formally dedicated by the Bishop of Truro. The church is in the Early English style, and has been designed by Mr. Piers St. Aubyn. During week-days a portion of the building is to be used as a school-room. The roof is of pitch-pine, and the windows are of cathedral glass, by Messrs. Fouracre & Watson, of Plymouth. The seats are of pitch-pine. The contractors were Messrs. W. Carah & W. Edwards, of Crowan.

DISSENTING CHURCH-BUILDING NEWS

Ramsey (*Isle of Man*).—A new church to seat 350 persons is now being erected by the Presbyterians of Ramsey. The site is in Waterloo-road, near the entrance to the new pier, and opposite to the Pavilion. Messrs. T. D. Barry & Son, of Liverpool, who have carried out other works on the island, are the architects. The building will be of stone, pointed with cement, with cement dressings. A school-room, capable of holding 350 scholars, will be placed in the basement. Messrs. Boyde Bros. are the builders.

Plymouth.—The Presbyterian church in Wyndham-street, Plymouth, which was burned down fifteen months ago, was re-opened on Sunday last, after restoration. The new building is described as being a great improvement on the old one, the architect having (we are told by the *Western Morning News*) conceived the "happy thought" of adding an exterior portico and pediment to the building, of which he was the original architect. Internally, the side-galleries have been removed, and the gallery at the end of the chapel has been lengthened to make up for it. Ventilation is provided for by three or four grated apertures in the roof and through the casements of the windows, and the chapel is to be warmed by a hot-air apparatus, by Haden, of Trowbridge. The church will now seat about 800 persons. It will be cushioned throughout in the basement. The gallery is set apart for the military in the morning,—the minister being chaplain to the Presbyterian troops in garrison,—and in the evening it will be open for the accommodation of the general public. Beneath the chapel, as before, there is a spacious schoolroom. The architect for the restoration was the architect of the original building, Mr. J. L. Hodge, of Courtenay-street; the contractors were Messrs. Palk & Partridge; Mr. Rowe supplied the gasfittings; Messrs. Randle & Prowse were the painters; and Messrs. Harding & Sons were the upholsterers.

STAINED GLASS.

Donington (*Lincolnshire*).—This old and recently restored church has just been further beautified by the addition of four memorial windows. The east and south-east windows are in memory of the two sons of the late Dr. Frere, and have been erected in obedience to the bequest of Mrs. Frere, whose death occurred recently. The subject chosen for the east window is the Ascension; the subject for the south-east window are water scenes both of the Old and New Testament, appropriately chosen as both the sons were in the Navy and died on board ship, one at Bermuda and the other at Bombay. The artists are Messrs. Hardman & Co., who have carried out the work under the executors of the will, Dr. Jollye and Mr. R. Bothamley, of Donington. The window placed in the south side of the chancel has been erected by the present vicar, Rev. J. D. Grenside, in memory of his first wife. It represents the Bethany family in the scenes of their history, as related by the Evangelists. The west window is in memory of Mr. Enoch Millson, for many years a resident in Donington. The subject is the Last Judgment. Near the window is a brass tablet of elaborate design, with the name, age, and death of Mr. Millson, who will be remembered not only by the window, but by his munificent charity in the district.

Act... (*Middlesex*).—The clearstory windows on the south side of All Saints' Church have been filled with stained glass. The illustrations are confined to figures of saints specially commemorated in the Church services. Each window (there are five on each side) is of two lights, and the figures with their emblems are richly coloured, and, for the better transmission of light, stand forth from a plain white quarry background. Messrs. Powell Bros., of Leeds, executed the work.

Sharrow.—Two stained-glass windows, the gift of his former parishioners, have been placed in the Church of St. Andrew, Sharrow, in memory of the late Rev. Edmund Boteler-Chalmer, D.D., the first vicar (1869-1879), but who was at the time of his death Vicar of Ranmoor. One window is a side chancel window of two lights, embodying one subject, viz., Christ's Charge to St. Peter. The other window is a rose-window over against the font. The artists are Messrs. Powell Bros., of Leeds.

Harrogate.—Trinity Chapel (Wesleyan) has just been presented by Miss Kay, of Harrogate, with stained-glass illustrations for the two windows which, one on each side, flank the organ in rear of the pulpit. These windows are of richly-floriated ornamentation in the Decorated style of the building, environing various blazoned texts. They are by Messrs. Powell Bros., of Leeds.

Selby (*Yorkshire*).—Selby Abbey Church has recently had a window on the north side of the choir filled with stained glass. The window consists of four main lights and several openings in the tracery, which are filled with old painted glass, which has been carefully restored. The large openings have each a foliated canopy, partly old glass within a border of small figures of the twelve Apostles and twelve of the principal martyrs, with a large figure beneath on a ruby ground, diapered with the initials of the figure, and a subject beneath under a canopy relating to the history of Benedict, the first abbot of the abbey. The window was the gift of Mr. W. Liversidge, J.P.

Exeter.—A committee of ladies, headed by Mrs. Temple and Mrs. Morgan Cowie, is being formed for the purpose of raising a sum of about 500*l*., to fill the handsome window over the clock in the northern transept of Exeter Cathedral with stained-glass representations of some of the women of Holy Scripture. The Scriptural characters selected for representation in the window are understood to comprise the Blessed Virgin Mary, the Queen of Sheba, Miriam, the Jewish captive maid in the service of Naaman's wife, Lydia, Dorcas, and Eunice.

VARIORUM.

WE have received the first number of "The Encyclopædic Dictionary" (Cassell & Co.), which will comprise, when it is completed, an enormous mass of information, we hope all reliable, but as the first part, of over sixty pages, only gets us as far as "Ad," we fear the date at which the completion may be looked for is somewhere in the Greek Kalends. ——From the same firm we receive Part 86 of the "Practical Dictionary of Mechanics," a useful publication, admirably illustrated.——"The Art of Soap-making" is explained in a volume of over 200 pages, with explanatory cuts and a very full index, by Mr. Alexander Watt; the book (Crosby Lockwood & Co.) may prove useful to architects who have to erect any buildings in connexion with the soap manufacture, and others may not be indisposed to learn a little about a common material which is so indispensable to us, but about which most of us know so little.——"Turning for Amateurs" (Upcott Gill), by Mr. Jas. Lukin, speaks for itself; it gives the amateur copious descriptions of tools and methods of working.——"Bookkeeping no Mystery" (Crosby Lockwood & Co.), by "An Experienced Bookkeeper," may be of use to some, though we are rather disposed to think that a bookkeeper is like a poet, in one respect, at least,—*nascitur non fit*, and that success in keeping accounts with neatness and accuracy is, in part, a matter of individual character; some will never be trustworthy in it, others are so by nature in a way of their own, even without having learned the orthodox way, which would, no doubt, have assisted them.——"The Railway Companies' Directory, 1884," gives statistics as to directors and principal officers, state of accounts and balances, and other information of value to those who regard railways from the investment point of view, of all the lines in the kingdom. It is remarkable how the passenger traffic returns emphasise the importance of the third-class traffic,—a point on which we have more than once touched when urging more chivalrous and liberal policy on the part of railway companies and railway officials towards their poorer passengers. In the case of the Midland, which runs no second-class, it is not so surprising, perhaps, to find first-class tickets (for the half-year ending the 30th of June, 1883), representing 129,619*l*., while third-class represent 672,119*l*.; but the difference is even more marked on the London and North-Western, which gives very good second-class accommodation, and we find first-class tickets (for the same period as above) standing for 256,482*l*.; second-class, 173,909*l*.; and third-class, 998,782*l*. This admirably-managed company has now made its third-class carriages very comfortable, and some people might argue that its returns would have been increased by making it more desirable to avoid third-class for second; but we believe their policy is the right one, even in a commercial sense, and that the only difference in making uncomfortable third-class carriages is that the company carries a discontented instead of a contented *clientèle*, and reaps the curses instead of the thanks of its passengers, as we see in the case of at least one famous (or infamous) line. The "Railway Companies' Directory" is obtainable through Messrs. W. H. Smith & Son. ——The *Sanitary Record*, published monthly (Smith, Elder, & Co.) keeps a good running commentary on the sanitary topics of the day, besides giving special information and printing special papers on sanitary subjects.——The "Garden Oracle" (*Gardeners' Magazine* office) combines an almanack with its oracles, and is also a floricultural year-book, by Mr. Shirley Hibberd, editor of the *Gardeners' Magazine*.——"The Medical Annual and Practitioners' Index" (Kimpton) is, as its name implies, chiefly of value to "the faculty."——The Epidemiological Society of London send us their "Transactions for the session 1882-3 (David Bogue), also, of course, mostly medical, but including an article by Mr. Norman Chevers, "A Glance at the Sanitary defects of London and its Environs," which may be of interest to some of our readers. ——Whitaker's "Almanack" is as valuable as ever in its varied information.——"The History of a Lump of Iron," by Mr. Alexander Watt (A. Johnston) is a brief popular treatise on the subject, giving a good deal of general information in an agreeable form.——From the Science and Art Department we receive a third and enlarged edition of "A List of Buildings in Great Britain and Ireland having Mural and other Painted Decorations," with a historical introduction in regard to mural decoration by Mr. C. E. Keyser, in which a good deal of information, in a rather dry form, is to be obtained. The book is sold at the South Kensington Museum.——"Picturesque America" (Cassell & Co.) has reached Part 34 out of its promised forty-eight parts. It is a fair specimen of a cheap popular work of the kind, but the style of the illustrations shows rather painfully one of the inevitable results of the attempt to produce works of this kind at prices "for the million," when we recall Bartlett's superb steel engravings in similar works ("American Scenery," "Canadian Scenery," &c.) in an earlier stage of the century.——"The Skeleton at the Plough" is the rather sensational title of a small book by Mr. George Mitchell, "One from the Plough," as he delights to style himself, whose trenchant letters on the wrongs of the agricultural labourer will be remembered in our columns some years ago. We do not admire the tone of all Mr. Mitchell's remarks, and we have no doubt at all ... he is often very one-sided; but he has given important aid in calling attention to, and leading to the mitigation of, evils of a kind which are seldom redressed unless people who are rather one-sided speak vigorously about them, and drive the nail home with a will. Some parts of the book are a little out of date now, we should hope, but it is a plain and vigorous narrative of very sad and painful facts. The book is to be had from the *Beehive* office, and from Roberts & Co., Red Lion-court.——The *Bibliographer* (Elliot Stock) is a journal of a type which would have delighted Mr. Jonathan Oldbuck; printed on good paper in a rather old-fashioned style, it deals with subjects connected with the world of book-lore in an apparently competent and interesting manner.——The "City of London Directory" (W. H. & L. Collingridge, *City Press* office) is an admirably got-up publication of the kind, very full in its information, substantial and effective in its binding.——Among art publications we have received vol. iii. of the *Journal of Decorative Art*, the combined numbers for the past year (Henry Vickers); the illustrations are well executed

but do not appear to us to be as good in idea as in execution, or to evince any settled conviction as to what decorative art really should be.——*L'Art* keeps up its interest and the quality of its illustrations, largely consisting of fac-similes of artists' original drawings and sketches; and the *Portfolio*, under the able editorship of Mr. Hamerton, shows no signs of falling off from its standard as a remarkably refined and high-class artistic periodical.——Mr. Edward Stanford, of 55, Charing-Cross, has sent us his annual "Map of Metropolitan Railway, Tramway, and Miscellaneous Improvement Schemes," which will be found very useful for reference now that many of the schemes marked on the map are engaging the attention of Parliament.——The *Furniture Gazette* (Wyman & Sons) has, since the commencement of the present year, appeared in a new and attractive form, the printing and general get-up of the paper being very well done. Week by week this journal gives a large amount of practical and business information, and it is very fully illustrated.

BUILDING PATENT RECORD.*

APPLICATIONS FOR LETTERS PATENT.

March 7.—4,500, H. Wyatt, Redhill, Sash-fastener.—4,507, W. Johnson, Dunfermline, Self-closing Hinge.—4,533, J. King, Reading, Chimney Cowls and Ventilators.

March 8.—4,569, S. Slater, Oldham, Weather Strips for Doors and Windows.—4,570, S. Slater, Oldham, Door-sill Brasses, &c.—4,572, R. McTaggart, Crossmyloof, Rollers for Blinds, &c.—4,603, W. D. Scott-Moncrieff, London, Water-closet Apparatus.—4,604, E. Newman, Birmingham, Window-fasteners.—4,607, S. Guivery, Epsom, Sash-frame Pulley.

March 10.—4,635, W. J. E. Henley and E. J. E. Henley, London, Concrete Building.—4,646, C. J. Poole, Forest Gate, Opening and Closing Swing Doors.—4,649, G. Paine, Worthing, Opening and Closing Swing Sashes, Shutters, and Doors.—4,653, H. Thompson, London, Stoves and Grates.

March 11.—4,673, A. Swan, Greenock, Chimney-top.—4,697, T. Arnold, London, Ventilation of Buildings.—4,699, H. B. Dow, London, Cowl.—4,709, F. A. Nibbs, London, Roofing Tiles.—4,725, W. R. Lake, London, Flushing, Cleansing, and Purifying Sewers. Com. by P. Burke, Salt Lake City, U.S.A.

March 12.—4,741, F. A. Weston, Caerleon Village, Blind-roller.—4,749, F. Taylor, Chippenham, Cord Holdfasts for Blinds, &c.—4,763, G. Macfarlane, London, Trapping and Ventilating Sink-wastes, Water-closets, &c.—4,768, E. Sherratt, Swansea, Metallic Roofings, &c.

March 13.—4,810, W. H. Hindle, Blackburn, Water-closets.—4,813, R. Nunn, Glasgow, Down-cast Ventilator.

SPECIFICATIONS ACCEPTED.†

March 14.—3,006, G. Deacon, Northampton, Glazing of Roofs.—3,094, H. D. Lake, London, Opening and Closing Doors, &c. Com. by L. C. Norton, Boston, U.S.A.

NOTICES TO PROCEED

Have been given on the Dates first named.

March 11.—5,270, T. Banchop, Alloa, Ventilator (Nov. 7, '83).

March 14.—5,320, J. U. Mocratti, London, Fireplaces, Stoves, &c. (Nov. 10, '83).

ABRIDGMENTS OF SPECIFICATIONS

Published in the Week ending March 15, 1884.

3,39[illegible] Newman, Ryde, Fastenings for Doors (July [illegible] '83, price 8d.).

To allow the door to open outwards when pressed, the bolts at the top and bottom that secure the same are connected to a vertical tubular rod by quick-working screw-threads. An arm projects out at an angle from the rod, which on being pressed turns the rod and the bolts are withdrawn. (Several modifications are shown.)

3,540, W. Ayres, London, Sash-weights (July 18, '83, 2d.).

The weights are cast with the holes for the lines in them. (*Pro. Pro.*)

3,634, B. J. B. Mills, London, Hygienic Joint for Doors, Windows, &c. Com. by J. Couturier, Lyons (July 24, '83, 6d.).

This is formed of elastic bands pressed by springs against the surfaces to be closed, through which the air slowly filters.

3,647, A. Mechan, Glasgow, Ventilating Cowls, &c. (July 25, '83, 6d.).

These are made in two halves, each half being stamped out of sheet metal and then joined together.

3,648, F. W. E. Braid, London, Fire-resisting Doors or Shutters (July 25, '83, 4d.).

Inside the doors, &c. (which may be of wood or metal) is a quantity of cotton or woollen slag inclosed in wire-work; and between the slag and the casing of the door is a layer of asbestos cloth.

* Compiled by Hart & Co., Patent Agents, 186, Fleet-street.

† Open to public inspection for two months from the date named.

MEETINGS.

SATURDAY, MARCH 22.

Architectural Association.—Visit to the Scottish National Church, Pont-street, Belgravia. 3 p.m.

Royal Institution.—Captain Abney, R.E., F.R.S., on "Photographic Action considered as the Work of Radiation." (IV.) 3 p.m. 12 to 10.

MONDAY, MARCH 24.

Building Exhibition, Agricultural Hall. 12 to 10.

Royal Institute of British Architects.—Special General Meeting for Alteration of By-Laws. 8 p.m.

Surveyors' Institution.—Mr. W. Fowler on "The Ancient Terms applicable to the Measurement of Land." 8 p.m.

Society of Arts.—Professor W. Chandler Roberts, F.R.S., on "The Alloys used for Coinage." (Cantor Lecture.) 8 p.m.

TUESDAY, MARCH 25.

Building Exhibition, Agricultural Hall. 10 to 10.

Builders' Clerks' Benevolent Institution.—Annual Dinner, Holborn Restaurant. 6.30 p.m.

Institution of Civil Engineers.—Discussion on Mr. Longridge's paper on "Wire-Gun Construction." 8 p.m.

Anthropological Institute.—(1) The Earl of Wharncliffe on "A Flint Implement from Yorkshire." (2) Mr. F. G. Hilton Price, F.S.A., on "Some Ancient Egyptian Bronze Implements." (3) Dr. J. G. Garson on "The Frankfort Craniometrical Code." 8 p.m.

WEDNESDAY, MARCH 26.

Building Exhibition, Agricultural Hall. 10 to 10.

Society of Arts.—Dr. B. W. Richardson, F.R.S., on "Vital Steps in Sanitary Progress." (Sir Robert Rawlinson, C.B., in the chair.) 8 p.m.

Civil and Mechanical Engineers' Society.—Mr. Thomas Cole, A.-M.Inst.C.E., on "Steam Tramways." 7 p.m.

The Hospitals Association.—Mr. W. J. Nixon on "Difficulties associated with the Administration of the Out-Patient Department." 8 p.m.

Royal Society of Literature.—Mr. C. H. E. Carmichael on "Grotius and the Literary History of the Law of Nations." 8 p.m.

THURSDAY, MARCH 27.

Building Exhibition, Agricultural Hall. 10 to 10.

Society of Antiquaries.—Mr. W. St. John Hope, F.S.A., "On the Architectural History of Rochester Cathedral, and especially on the Norman Period of that History." 8.30 p.m.

Society for the Encouragement of the Fine Arts.—Mr. J. Forbes Robertson on "International Exhibitions, with special reference to the recent Exhibition at Munich." 8 p.m.

Society of Engineers.—Mr. J. W. Wilson, jun., on "Bridge Construction." 7.30 p.m.

Parkes Museum of Hygiene (74a, Margaret-street).—Dr. Watson Cheyne on "Bacteria, particularly the Organisms occurring in Disease." 8 p.m.

Society of Telegraph Engineers and Electricians.—(1) Prof. Geo. Forbes "On the Proportion which ought to subsist between the Size of Conductors and the Strength of the Currents." (2) Mr. Thomas H. Blakesley, M.A., "On the Relation which should subsist between a Current of Electricity and the Conductor employed to convey it." 8 p.m.

Royal Institution.—Professor Tyndall on "The Older Electricity: its Phenomena and Investigators." (V.) 3 p.m.

FRIDAY, MARCH 28.

Building Exhibition, Agricultural Hall. 10 to 10.

Architectural Association.—Mr. W. E. Rich on "Water Supply to Country Houses and Isolated Public Buildings." 7.30 p.m.

Royal Institution.—Professor Osborne Reynolds, F.R.S., on "The Two Manners of Motion of Water, shown by Experiments." 9 p.m.

Society of Arts (Indian Section).—Mr. Griffin W. Vyse on "Trade Routes in Afghanistan." 8 p.m.

SATURDAY, MARCH 29.

Building Exhibition, Agricultural Hall. 10 to 10.

Miscellanea.

A Sailors' Institute was opened at Goole, East Yorks, on the 18th inst., by Mr. W. Aldam, J.P., Chairman of the Aire and Calder Navigation. The design is by Mr. W. Alfred Gelden, architect, Hull, which was chosen in a limited competition. The style of architecture is Tudor. The building is faced with red bricks, with Ancaster stone dressings. The total cost of the building is 1,300*l*. The contract has been carried out by Messrs. Jackson Bros., of Goole.

The Colchester Museum.—It having been thought desirable that a complete catalogue should be made of the Roman and Mediæval antiquities in the Colchester Museum, Mr. J. E. Price, whose name has been prominently before our readers in connexion with the Roman discoveries at Brading, was requested to undertake the task, which he has done in a very thorough and painstaking manner. His catalogue will probably add considerably to the interest and usefulness of the museum.

Proposed Monument to Coligny.—A fund is being raised for the erection of a monument in Paris to Admiral de Coligny.

Aboriginal Dwellings in Arizona.—An interesting discovery has been made by Mr. James Stevenson, of the United States Geological Survey in Arizona, where explorations have been carried on for some time. Some extensive villages of caves and houses built in the sides of cliffs were found in the same district a year or two ago, and more recent investigations have shown the existence of several others, differing in certain ways from those first observed. The most curious of the newly-discovered towns formed a group of pits, about sixty-five in number, sunk in the volcanic foot hills of the San Juan Mountains. Each dwelling consisted of a central cavity, oval in shape, and about 20 ft. in its shortest diameter, with arched roof, and surrounded by three of four smaller apartments communicating with the central hall by passages, but entirely isolated from the adjoining habitations. Access to each of these groups of rooms was obtained through a square shaft, which had holes cut in its walls to serve as steps, and a groove in one side which answered for a chimney-flue. The shaft entered at one side of the main hall, and the upper end was surrounded by a fence of loose stones, to guard against the entrance of unwelcome guests. About fifteen miles from this singular town was found another, consisting of a large number of huts, built of stone, in a sort of horizontal crevice in the perpendicular wall of a deep cañon. The houses stood in a single row, with the back against the rocky wall, the fronts and sides only being constructed of large stones laid in clay. A narrow path extended along the front of the houses, and the deserted groups formed almost a continuous line of houses for about five miles along the side of the cañon. Many simple utensils of wood and stone were found in the huts, but no inscriptions or other indications of high civilisation.—*Scientific American.*

Demolition of Ancient Houses in Wych-street.—Within the last few days the hand of the destroyer has been busy in demolishing five of the well-known old houses in Wych-street. The buildings, which have thus been cleared away, consisted of five houses and shops on the south side, extending westward upwards of 100 ft. from near the St. Clement Danes end of the street. The clearance likewise extends southwards into "Booksellers'-row," better known as Holywell-street, embracing a number of dilapidated and rickety structures in that once notorious thoroughfare. Although they have stood for centuries, it is said that the wooden and plaster structures in Wych-street were found to be wonderfully sound. It is stated that new buildings will be erected on the site by a company of capitalists who have purchased the old buildings and the freehold, and that the new structures will have frontages to both thoroughfares. From time to time there has been much talk as to the absorption of these two streets under some scheme for the widening and improvement of the Strand, but so far nothing definite has come of the oft-rumoured project, and unless some arrangement is entered into with the parties now in possession the probability is that a few months will suffice to see the completion of new buildings on the site which has now been cleared, and which may have to be cleared again.

Ensilage.—We are informed that the Prince of Wales, after the lecture on "Ensilage" on Monday evening, at the Institute of Agriculture, South Kensington Museum, at which his Royal Highness presided, afforded Messrs. F. W. Reynolds & Co., of Acorn Works, Edward-street, Blackfriars, a private interview, for the purpose of explaining to him and his suite the advantages possessed by their patent method of mechanically compressed ensilage, as compared with the use of dead weights. This method was described in detail in the *Builder* for January 5 last.

A Reform in Workmen's Swimming-Baths.—The *Sanitary Record* mentions, in a report on Continental baths, that at the new Cologne Public Baths the supply of water is continuous, though the charge is little over a penny; and men following dirty employments are compelled to perform a preliminary ablution with soap. Such an arrangement, even where a constant supply of fresh water is not to be had, would doubtless render our own third-class public baths more popular with those of the poorer classes who value cleanliness and object to what is known amongst them as "soup."

Unwholesome Dwellings in Marylebone.—The "Sanitary Chronicles of the parish of St. Marylebone during January, 1884," by Dr. Alexander Wynter Blyth, Medical Officer of Health, contain some statistics and other matters of special interest at the present time. Dr. Blyth appears to have reported (under Torrens's Act) that sixteen houses in Devonshire-place, Lisson-grove, five houses in York-court, and No. 2, George-court were unfit for habitation. He appends the report of the surveyor (Mr. H. Tomkins), who is of opinion that certain repairs which he specifies will render the houses in Devonshire-place fit for habitation. Dr. Blyth appears to be sceptical on this point, and adds that the death-rate of Devonshire-place is, taking the average of the last seven years, no less than thirty-nine per thousand! The Surveyor, however, reports that the structural condition of the houses in York-court is such that, in his opinion, they do not admit of such alterations or repairs as would render them fit for human habitation. Continuing his process of house-to-house inspection of what may be called tenement streets, during the past month Dr. Blyth has personally visited the greater portion of East-street. East-street runs nearly parallel to York-place and Baker-street; the houses are 105 in number, and contain 940 rooms, let to 483 families; in three instances one family occupies the entire house, but the rule is that the whole is let out in rooms. The population of the street is at present 1,642, which gives for every ten rooms seventeen people, or 1·7 to a room. As a whole the population is a very respectable one, quiet, orderly, and clean; only five houses could be called dirty. Each house is provided with a 6 in. pipe drain. Nos. 1 to 19, Nos. 21, 22, 35, 53, 54, 56, 74, and Nos. 88 to 105, have no trap in the sewer. In one house a cesspool was found; the other defects were of a minor character. The death-rate of this street for the past seven years has been 23·9 per thousand.

Cremation.—The chief value of cremation consists in its almost perfect destructiveness. This quality also constitutes its principal drawback. The very process which anticipates the changes of putrefaction and decay removes every particle of evidence derivable from tissue as to the cause of death, whether natural or the result of foul play. The Cremation Society of England endeavours to meet this difficulty by providing that the consent of relatives of a deceased person or of the deceased himself during life shall be a necessary preliminary to combustion of his body. A medical certificate to the effect that death resulted from a specified natural cause is also requisite, or, should there have been no medical attendance, an autopsy must be made by a medical officer chosen by the Society. Now, but for the nominal distinction that autopsies in the latter case are at the present time performed at the discretion of the coroner, there is no difference between these provisions and those which now regulate the burial of the dead. In consideration of the decisive effect which cremation must have on our legal as well as our social system, some further safeguard is surely necessary. Mere certification is not enough. Resort to *post-mortem* section in unavoidable cases would not avail. In order to give security against possible miscarriage of justice, an autopsy should be performed in every instance where the body is destroyed by fire. This invariable preliminary, if it be adopted, may somewhat interfere with public acceptance of the society's method; but we regard it as a necessary precaution.—*Lancet.*

Lace Making in Ireland.—Mr. Alan S. Cole delivered lately two lectures on lace-making and Irish lace in the lecture theatre of the Royal Dublin Society. He said that exhibitions of Irish embroidery, lace, crochet, and similar work were held last year in Cork and London. Ireland possessed an unusual talent for producing such works. But whilst that talent was strongly developed, the absence of correctly-drawn patterns, and, indeed, of a supply of new patterns, was as strongly proclaimed. Without some effort to counteract that poverty in design, the workmanship, however good, must gradually cease to have any value of itself.

Rolled Girders.—Mr. Archibald D. Dawnay sends us his last list of sections and weights of rolled-iron girders and joists, kept always in stock. The form of showing these, on a large sheet, which can be hung up, is convenient for immediate reference.

New Building Estates in the Clapham District.—In the neighbourhood of Clapham-road several spacious old mansions, pleasantly situate in extensive grounds, have within the last few weeks been cleared away, and building is now in active progress in the locality, which will shortly lose much of its pleasant aspect and become a thickly-populated urban district. What is designated the Clapham-road Estate consists of upwards of twelve acres, extending in a south-easterly direction from the east side of Clapham-road, near the railway-station to Landor-road, Stockwell. On this estate several new roads, 40 ft. in width, have been laid out, and upwards of 100 houses, of three and four stories in height, have already been erected, and large numbers of similar structures are at present in progress at different points on the estate. The Clapham-road frontage of the estate will be entirely occupied by shops and other business premises. The total number of houses to be erected on the estate is about 400. A short distance to the northward another estate is being similarly laid out and built upon. This estate also extends eastward to Landor-road, whilst on an adjoining estate, in immediate proximity to the Stockwell Small-pox Hospital,—which, it appears, has now no terrors for builders,—some hundreds of houses suitable for clerks and the well-to-do artisan class, have been erected within the last few months. Altogether, on the different estates on which building is now going forward, there will be about 700 new houses put up.

Paving Apportionments.—At the Stratford Petty Sessions, on Wednesday, the London Labourers' Dwellings Society, Limited, of Blomfield-street, E.C., was summoned by the Walthamstow Local Board for the recovery of 231*l.* 10s. 10d., being the amount of the apportionment of the making-up of Selborne-road, Walthamstow. Mr. Gilbert Houghton, Clerk to the Local Board, appeared to support the information, and Mr. Firth, M.P., represented the defendants. Formal evidence was given that the defendants' society were the owners of a row of houses in Selborne-road and that the apportionment in respect of the frontages of those houses was the amount of the claim. Mr. Jerram, the Surveyor to the Local Board, stated that previous to the Board making up the road under the Public Health Act it was merely a building estate laid out on the lines of an old footpath, and was a mere bog impassable to the public and to vehicles. Mr. Firth submitted that this was an old public road which had previously been repaired by the parish authorities, and called evidence on that point. Summons dismissed without costs.

Roof Construction.—The fifth of a course of lectures on "General Engineering Construction," by Mr. J. W. Wilson, jun., vice-principal of the Crystal Palace School of Practical Engineering, was delivered on the evening of March 13th, in the reading-room of the Society of Engineers, Victoria-street, Westminster, Mr. A. T. Walmisley, member of council, in the chair. The lecturer commenced by considering the general nature of a roof, with its different conditions of thrust and strain. After referring to the various sources of roof load, he proceeded to the subject of accessory roofs of different kinds; and then referred in detail to the nature and construction of principals for timber roof work, compound roof work, and iron roof work; directing special attention to their various parts, junctions, &c. The lecturer then went on to describe other details of roof work, purlins of different magnitude, wind-ties, &c., and the various coverings in use. After mentioning some points connected with the subject of erection, he concluded by referring to some special roofs of large span.

Wellington, New Zealand.—The *New Zealand Times* of the 1st ult. mentions the satisfactory completion of the new Post and Telegraph Offices at Wellington, of which a general description is given. Mr. Thomas Turnbull is the architect of the building, his design having been selected in competition. We gave a view of the design, together with some further particulars, in the *Builder* for Oct. 16, 1880. The cost of carrying out the building was estimated by Mr. Turnbull at 17,000*l.*, and he procured a tender from a local builder who was willing to erect the building for that sum. Ultimately, however, certain modifications were made in the plans by the desire of the Government, and the contract for the erection of the building was taken by Messrs. Barry & McDowall at 22,444*l.*

The Hospitals' Association.—It is now arranged that the evening meetings of this association shall be held at the rooms of the Medical Society of London, 11, Chandos-street, Cavendish-square. The first will take place on Wednesday next, when Mr. William J. Nixon, House Governor of the London Hospital, will read a paper on "Difficulties Associated with the Administration of the Out-Patient Department, and how best to deal with them." Sir Andrew Clark, Bart., will preside. Papers on the following subjects will be contributed during the present session:—April 23, "How far our Hospitals should be Training Schools for Nurses," May 21, "How the Hospital Sunday and Saturday Funds can be made more useful to the Hospitals." June 18, "Is it desirable that Hospitals should be made self-supporting and, if so, to what extent?"

TENDERS.

For the Staines Infectious Hospital (including fencing) for the Staines Joint Hospital Board. Mr. Hampden W. Pratt, architect, 3, Furnival's Inn, Holborn. Quantities by Messrs. Evans & Deacon, 1, Adelaide-street, Charing-cross:—

W. Woodbridge, Maidenhead	£4,281	0	0
W. Brown, Southall	4,225	0	0
J. Shillitoe, Upper Norwood	4,214	0	0
C. Jarrett, Croydon	4,130	0	0
W. Lodge, Feltham	4,113	0	0
J. Burchell & Co., Bedfont	4,073	0	0
F. Higgs, Loughborough Junction	4,000	0	0
T. Turner, Watford	3,979	10	0
T. Hardy, Cowley	3,920	0	0
Aldridge & Jenvey, Peckham	3,906	15	0
Hann & Co., Windsor	3,900	0	0
F. Taylor, Uxbridge	3,894	0	0
G. Reavell, Staines	3,844	0	0
R. Avard, Maidstone	3,832	0	0
A. L. Oades & Sons, Egham	3,827	0	0
E. Triggs, Clapham	3,812	0	0
T. Hiscock, Hounslow	3,765	0	0
J. Martin, Addlestone	3,735	0	0
Maides & Harper, Croydon	3,723	0	0
P. Peters, Hersham	3,699	0	0
G. Gibson, Southall	3,685	0	0
Martin, Wells, & Co., Aldershott	3,682	0	0
H. C. Belch, Harmondsworth	3,660	0	0
Priestley & Gurney, Camden Town	3,569	0	0
J. Bottrill, Reading	3,499	0	0
Bull, Sons, & Co. (Limited), London	3,469	0	0
Groome, Rowland, & Co., London	3,309	0	0

For the erection of public-house and two sale shops, situate in Barker-gate, Nottingham, for Mr. John Robinson. Mr. Herbert Walker, C.E., architect:—

B. Crookes	£1,795	0	0
H. Vickers	1,755	0	0
Wool Bros.	1,753	0	0
Fisher, Hutchinson, & Ashling	1,740	0	0
Ireson, Wade, & Gray	1,725	0	0
G. Bell & Son	1,720	10	0
Hatfield & Frost	1,700	0	0
A. B. Clarke	1,690	10	0
Bains & Turton	1,675	0	0
Bott & Wright	1,660	0	0
H. Scott	1,651	10	0
J. Noble	1,622	0	0
Keeling & Taylor	1,620	9	0
E. Hind	1,611	0	0
C. Rockley	1,594	0	0
J. F. Price, Ebury-road, Sherwood-rise, Nottingham (accepted)	1,530	0	0

For repairs and alterations to No. 24, Bloomsbury-square Mr. W. S. Payne, architect. No quantities:—

Lawrence & Son	£594	0	0
R. Perkins	565	0	0
Tarrant & Sons	550	0	0
Holliday & Greenwood	477	0	0

For completing tower of St. John's Church, Torquay, Mr. A. E. Street, architect, London:—

E. Abley, Salisbury	£2,265	0	0
C. Trask, Norton-sub-Hamdon	2,207	0	0
W. A. Goss, Torquay	1,995	0	0
Wall & Hook, Brimscombe	1,870	0	0
E. Drake, Torquay	1,850	0	0
E. P. Bovey, Torquay	1,840	0	0
J. Marshall, Plymouth (who built the church)	1,773	0	0
J. Church, Torquay (accepted)	1,750	0	0

For alterations and additions to The Coombe, Streatley, for Mr. E. Gibbons. Mr. W. Ravenscroft, architect, Reading:—

J. Smallbone, Streatley (accepted)	£550	0	0

For building six cottages in Bailey's-lane, Stamford-hill, for Mr. A. Sanders. Mr. Edwd. Brown, architect, Hanbury-street, Spitalfields:—

J. C. Christoffer (accepted)	£990	0	0

For alterations and repairs to the White House, Snaresbrook, Essex, for Mr. H. Prockter. Mr. Edwd. Brown, surveyor:—

Belcher & Ullmer (accepted)	£302	0	0

For alterations, repairs, &c., at 25, Upper Montagu-street, for Mr. W. G. Farquhar. Mr. George Low, architect:—

White & Co.	£820	0	0
A. G. Bolding	567	0	0
Holliday & Greenwood	507	0	0
W. B. Oldrey	498	0	0

For the restoration of the chancel of Townstal Church, Dartmouth. Mr. E. H. Back, architect:—

Edgcombe & Harvey, Strete	£80	0	0
Rundell, Kingsbridge (accepted)	75	14	6

For additions to brewery, Wilderspool. Messrs. Davison, Inskipp, & Mackenzie, architects and consulting engineers, No. 62, Leadenhall-street, London. Quantities for No. 1 contract by Messrs. Curtis & Son:—

Contract No. 1.—Boiler and Engine House.

J. Gibson, Warrington	£	,659	0 0
Neil & Son, Manchester	2,610	0	0
W. Harrison, St. Helen's	2,496	3	9
Treasure & Son, Shrewsbury	2,455	0	0
R. Beckett, Hartford (accepted)	2,387	0	0

Contract No. 2.—Boilers.

The Pearson & Knowles Co.	£850	0	0
Daglish & Co.	800	0	0
Galloway	775	0	0
W. Jones & Son	745	0	0
Thornwill & Warham	730	0	0
J. Watt & Co. (accepted)	695	0	0

Contract No. 3.—Engines.

Daglish & Co.	£1,429	0	0
J. Watt & Co.	1,395	0	0
The Pearson & Knowles Co.	1,256	0	0
H. Woods	992	0	0
Thornewill & Warham (accepted)	930	0	0

For new premises, North End, Croydon, for Messrs. Batchelor. Mr. R. W. Price, architect. Quantities by Messrs. Barber & Co.:—

Ward, Warlingham	£4,690	0	0
Page, Croydon	4,600	0	0
Legg, Croydon	4,469	0	0
Smith & Sons, Norwood	4,432	0	0
Taylor, Croydon	4,406	0	0
Hart, Dover-street, Borough	4,326	0	0
Marriage, Croydon and Pancras-lane	4,200	0	0

For repairs to the Duke of Clarence, Scawfell-street, Hackney-road, for Mr. B. Hyams. Mr. Edwd. Brown, surveyor:—

S. Salt	£192	0	0
C. Marr (accepted)	185	0	0

For the erection of new school, and repairs to existing buildings, St. John's, Redhill. Mr. S. W. Haughton, architect, East Grinstead:—

Holdsworth, Reigate	£2,389	0	0
Dives, Lingfield	2,308	0	0
Peat, Meadvale	2,185	0	0
Nightingale, Bros., Reigate	2,111	0	0
Pledge, East Grinstead	2,024	0	0
Charlwood Bros., East Grinstead	1,920	0	0

For the erection of stable, coach-house, and pair of cottages at East Grinstead. Mr. S. W. Haughton, architect, East Grinstead:—

Godly, East Grinstead	£674	0	0
Taylor, Forest-row	625	10	9
Charlwood Bros., East Grinstead	610	17	6
Beard, East Grinstead	550	0	0
Foster, East Grinstead	495	0	0
Pledge (accepted)	485	0	0

For the erection of villa residence, Dencross, near Edenbridge, with coach-house, stable, &c. Mr. S. W. Haughton, architect, East Grinstead:—

Goodwin Bros., Edenbridge (accepted)	£970	0	0

For the first section of work in alterations and additions to Highmoor Hall, Oxon. Mr. M. N. Inman, architect, No. 7, Bedford-row:—

Holly & Butler, Nettlebed (accepted)	£238	11	6

For alterations and additions to No. 15, Welbeck-street, for Dr. Jones. Mr. A. E. Hughes, architect. Quantities by Messrs. Sandall, Corderoy, & Selby:—

R. Perkins	£4,637	0	0
Faulkner	4,235	0	0
Williams	4,100	0	0
Downs	3,987	0	0
Simpson	3,986	0	0

For repairing (on specification) the swimming-bath, and enclosing the storeroom of the St. James's, Westminster, Public Baths and Washhouses, Marshall-street, Golden-square:—

Iredale, Carnaby-street	£131	10	5
Shiers, King-street	95	14	0
Cook, Wardour-street	79	15	0
Bywaters, King-street	49	15	0

For painting and whitewashing at the Casual Wards of the St. Marylebone Workhouse, for the Guardians of the Poor of St. Marylebone. Messrs. H. Saxon Snell & Son, architects:—

Lathey Bros.	£245	0	0
Bray & Pope	222	0	0
A. E. Wickham	222	0	0
Wall Bros.	189	0	0
Sheerman & Sons	185	19	0
A. W. Derby	180	0	0
Wm. Bamford	160	0	0
J. Birch	140	0	0
G. W. Steward	123	8	2
Vigor & Co.	117	10	0

For the erection of the first portion of the South-Eastern College, Ramsgate. Mr. W. G. Osborne, architect:—

W. Martin, Ramsgate	£11,368	0	0
W. & J. Denne, Walmer	9,500	0	0
R. Paramor & Son, Margate*	8,750	0	0

* Accepted.

For the erection of a depôt, with houses for manager and horsekeeper, in Dyne-road, Kilburn, for Messrs. Carter, Paterson, & Co. Mr. William Eve, 10, Union-court, Old Broad-street, architect:—

Rowe	£4,062	0	0
Nye	3,813	0	0
D. D. & A. Brown	3,780	0	0
Harris & Wardrop	3,723	0	0
Downs	3,720	0	0
Rogers	3,663	0	0
F. Higgs, Station Works, Loughborough Junction (accepted)	3,550	0	0

[This list (sent by the architect) is inserted in lieu of the list of tenders for the same job which we printed last week (p. 393), and which was incorrect, although authenticated by one of the firms who tendered. Correspondents should be more careful in these matters.]

Special Notice.—Lists of tenders frequently reach us too late for insertion. They should be delivered at our office, 46, Catherine-street, Strand, W.C., not later than four p.m. on Thursdays.

TO CORRESPONDENTS.

F. M. (cannot recommend books: see below).—G. L. (finished drawings are always sent; there is no reason why pencil drawings should not be, but they would probably have little chance of selection in most cases).—A Traveller (should have sent his name).—B.T.G.—E. T. (Newcastle) (if you will send address we will reply by post).—J. H. M. (should send list and amounts).—H. & P. (ditto).

Correspondents should address the Editor, and *not* the Publisher, except in cases of business.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

PUBLISHER'S NOTICES.

THE INDEX and TITLE-PAGE for Volume XLV. (July to December, 1883) were given as a Supplement with the number of January 12, and A COLOURED TITLE-PAGE was issued the following week, in substitution for that published previously.

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Corsham Down,
And Farleigh Down.
RANDELL, SAUNDERS, & CO., Limited,
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Box Ground Stone
Is the Best for Use in all Exposed Positions, being a well-known and tried Weather Stone.
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[ADVT.

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Doulting Freestone,
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Of best quality, supplied from their own Quarries and Kilns by STAPLE & HANN, Stoke, Ilminster.
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Asphalte.
Seyssel, Patent Metallic Lava, and White Asphaltes.
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MICHELMORE & REAP,
Manufacturers of

COLLINGE'S PATENT HINGES,
LEVER, SCREW, & BARREL BOLTS,
Self-Acting "FALL DOWN" GATE STOPS,
and IMPROVED GATE FITTINGS of every Description
36A, BOROUGH ROAD,
LONDON, S.E.
DISCOUNT TO BUILDERS.

GOLD AND SILVER MEDALS AT AMSTERDAM EXHIBITION.
IRON CISTERNS.
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LONDON, LIVERPOOL, GLASGOW.
VERY PROMPT SUPPLY.
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